

PROTECTING AND RESTORING AMERICA'S GREAT WATERS, PART II: THE COLUMBIA RIVER AND SAN FRANCISCO BAY

(111-107)

HEARING BEFORE THE SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT OF THE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE HOUSE OF REPRESENTATIVES ONE HUNDRED ELEVENTH CONGRESS SECOND SESSION

April 28, 2010

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U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

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April 27, 2010

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SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Water Resources and Environment
FROM: Subcommittee on Water Resources and Environment Staff
SUBJECT: Hearing on "Protecting and Restoring America's Great Waters, Part II: The Columbia River and San Francisco Bay"

PURPOSE OF THE HEARING

The Subcommittee on Water Resources and Environment will meet on Wednesday, April 28, 2010, at 2:00 p.m., in room 2167 of the Rayburn House Office Building to receive testimony from members of Congress, representatives of the U.S. Environmental Protection Agency (EPA), San Francisco Bay Estuary Partnership, Lower Columbia River Estuary Partnership, Columbia River Inter-Tribal Fish Commission, Oregon State Senate, Bay Area Council, and Contra Costa County, and other stakeholder entities from the Columbia River Basin and San Francisco Bay.

BACKGROUND

This memorandum summarizes the state of the Columbia River Basin and San Francisco Bay, as well as efforts to protect and restore both of these Great Waters.

I. Estuaries and Coasts

Estuaries are bodies of water that receive both outflows from rivers and tidal inflows from the ocean. They are transition zones between fresh water from rivers and saline water from the ocean.

The mixing of fresh and salt water provides a unique environment that supports diverse habitats for a wide variety of living resources, including plants, fish, and wildlife. Many fish and shellfish species depend on the sheltered habitat provided by estuaries, as well as the mix of saline and fresh water. Estuaries are often used as places for these species to spawn, and for their young to

grow and develop. These areas also serve as habitat and breeding areas for hundreds of species of birds and other wildlife, including marine mammals.

The rich array of resources found in estuarine environments provides a foundation for the economy of many coastal areas. Tourism, fisheries, and other coastal commercial activities depend on the resources provided by estuaries. Most commercially and recreationally important fish and shellfish species, such as striped bass, shad, salmon, sturgeon, shrimp, crabs, lobster, clams, oysters, mussels, and bay scallops, depend on estuaries for stages of their life cycles. According to the National Oceanographic and Atmospheric Administration (NOAA) and the National Research Council (NRC), estuaries provide habitat for 75 percent of the U.S. commercial fish catch and 80 to 90 percent of the recreational fish catch. Estuaries also provide cultural and recreational opportunities that include boating, fishing, swimming, surfing, and bird watching.

The coastal areas surrounding estuaries are amongst the most populated areas in the nation. Collectively, the nation's coastal counties account for only 13 percent of the total contiguous land area of the United States. However, 43 percent of the population lives in these coastal areas.¹

Estuaries and coastal areas are central to the nation's economy. According to economic analyses performed by Restore America's Estuaries, coastal counties account for 40 percent of the employment and 49 percent of the economic output for the nation. The University of California and the Ocean Foundation have determined that beach-going produces between \$6 and \$30 billion, recreational fishing between \$10 and \$26 billion, and coastal wildlife viewing between \$4.9 and \$49 billion per year. Louisiana State University's Center for Energy Studies reports that 30 percent of the U.S. crude oil production, 20 percent of the U.S. natural gas production, and 45 percent of the U.S. petroleum refining capacity lies within a few miles of the Gulf of Mexico coastal zone. America's ports contributed more than \$3.15 trillion to the Gross Domestic Product in 2007.² The University of Maryland has found that a significant proportion of the 10 billion pounds of commercial fish landings in 2004 are dependent on estuaries. This was worth over \$3.8 billion, unprocessed. Finally, a 2004 analysis from Penn State found that beachfront proximity increased the value of a property by 207 percent, compared to a similar property two blocks away. A bayfront location resulted in a 73 percent increase in value, compared to a similar property two blocks away.

Both the Columbia River Basin and the San Francisco Estuary receive funding through the Clean Water Act's National Estuary Program (NEP). In addition, both have been designated by the EPA as Large Aquatic Ecosystems and participate in the EPA's Large Aquatic Ecosystems program.

II. Columbia River Basin Water Quality Restoration and Protection

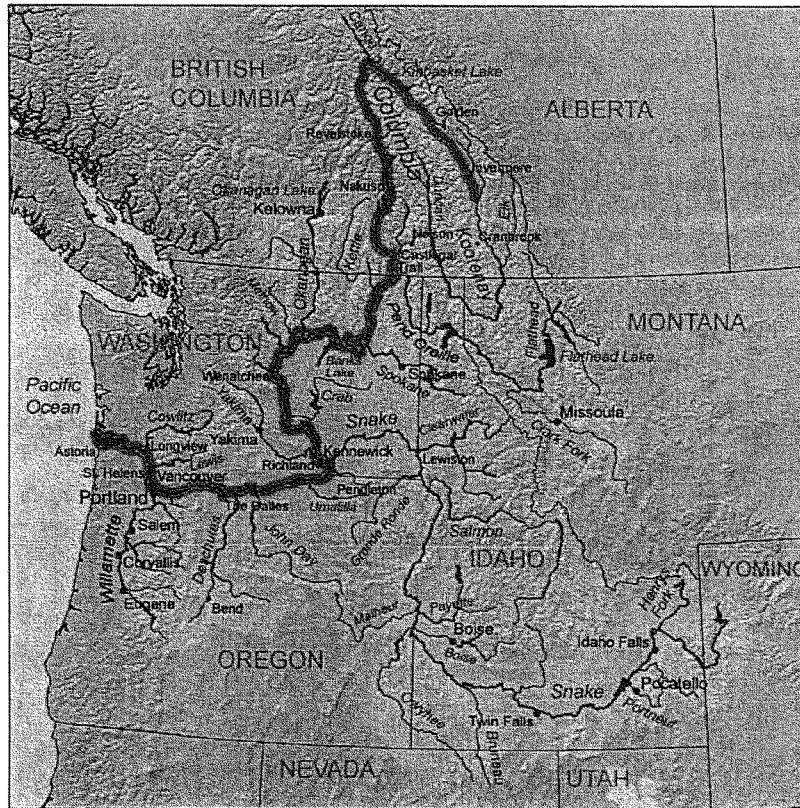
A. Columbia River Basin

The Columbia River Basin is the fourth largest watershed in North America, and includes parts of seven U.S. States, as well as British Columbia, Canada. These States include Washington, Oregon, Idaho, Nevada, Utah, Montana, and Wyoming. The basin encompasses 260,000 square

¹ These figures are based on only marine coastal counties. Counties bordering the Great Lakes were considered non-coastal counties. Including those counties would increase the percentage of coastal counties that make up the total land area of the United States, but would likely boost the total percentage of the population that lives along coastal areas.

² Martin Associates, *The Local and Regional Economic Impacts of the U.S. Deepwater Port System, 2007* (June 6, 2008).

miles and tributaries ultimately drain into the Columbia River, which is nearly 1,200 miles long. The Columbia River is, in part, shared by both the States of Washington and Oregon as the border between the two states. Major tributaries of the Columbia River include the Snake and Willamette Rivers, among others.



Source: <http://en.wikipedia.org/wiki/File:Columbiarivermap.png>

The Lower Columbia River Estuary stretches from the Bonneville Dam, 146 miles inland to the Pacific Ocean. The estuary covers approximately 4,300 square miles. The Lower Columbia River Estuary is different than other large west coast estuaries, like Puget Sound or San Francisco Bay, in that it has a lower population density surrounding it. However, the population surrounding the estuary increased by 78.4 percent between 1960 and 2000, from 0.9 million to 1.6 million individuals.

B. Columbia River Basin Impairments

The Columbia River has impaired water segments from the Canadian border to the Pacific Ocean.³ The State of Washington has identified 135 impaired water segments on the Columbia River. The EPA calculates that 100 percent of the Columbia River's Oregon main stem (including reservoirs) is impaired. In addition, in Oregon's portion of the Basin, 81 percent of assessed streams and lakes are impaired. The EPA calculates that 61 percent of Idaho's assessed waters are impaired and 99 percent of assessed lakes are impaired, including the reservoirs on the Snake River.

The EPA rates the Lower Columbia River Estuary fair. Water quality and sediment quality are rated fair, while the fish tissue contaminant index rating is poor. With regard to EPA's water quality ratings, dissolved nitrogen concentrations are good, dissolved phosphorus concentrations are fair, chlorophyll *a* concentrations are good, water clarity is poor, and dissolved oxygen conditions are good. EPA's sediment quality ratings for sediment toxicity are poor, sediment contaminants are good, and total organic carbon in sediment is good. In generating EPA's fish contaminant index rating, 46 percent of all fish sampling stations resulted in fish caught that exceeded the EPA Advisory Guidance values for whole-fish contaminant concentrations.

The chart below lists the pollutants for which the three primary states have identified portions of the Columbia and Snake River impaired.

Washington 303(d) Listings	Oregon 303(d) Listings	Idaho 303(d) Listings
Aldrin	Arsenic	Ammonia
Alpha BHC	Arsenic (tri)	Bacteria
Bacteria	Bacteria	Dissolved Oxygen
Chlordane	DDE	Mercury
DDD	Dioxins (TMDL in place)	Nutrients/Phosphorus
DDE	PAH	Pesticides
DDT	PCBs	Sediment
Dieldrin	pH	TDG
Dioxin (TMDL in place)	Temperature	Temperature
Dissolved Oxygen	Total Dissolved Gas (TMDL in place)	
Mercury		
pH		
PCBs		
Sediment Bioassay		
Temperature		
Total Dissolved Gas (TMDL in place)		

Source: EPA

³ Note that each State uses different listing and assessment methodologies for identifying impaired waters under section 303(d) of the Clean Water Act. It is therefore not possible to compare Washington listings with Oregon's in relation to size and scope of impairment.

EPA Region 10⁴ has focused with special interest on four toxic contaminants: mercury; DDT (dichlorodiphenyltrichloroethane) and associated products; PCBs (polychlorinated biphenyls); and PBDE (polybrominated diphenyl ether) flame retardants. As the chart above indicates, there are a number of other contaminants present in the Basin, but there are monitoring and information gaps regarding the presence of these constituents. In addition, these four toxic contaminants are ubiquitous throughout the area: according to the EPA they are found throughout the Basin in amounts that could be harmful to humans, fish, and wildlife.

Water quality impairments have impacted a number of species in the Lower Columbia River Estuary. Approximately 24 threatened and endangered species reside in the Estuary. Some of these, such as bald eagles, are recovering. However, others, such as chinook salmon, are not. A century ago, the number of chinook salmon returning to spawn in the Estuary ranged from 450,000 to 550,000 a year. In 1999, the population of returning chinook salmon reached the lowest levels recorded: 25,000. Since then, however, there have been slight improvements in returning numbers. While a variety of factors have influenced this decline (including hydropower operations, harvest levels, and ocean conditions), the predominant driver is understood to be habitat loss and degradation in the Estuary.

Other ecosystem impairment drivers include invasive species. At least 81 invasive species have been identified in the Lower Columbia River Estuary. These include American shad, purple loosestrife, the Chinese mystery snail, the Eastern snapping turtle, and nutria.

C. Water Quality Impairments and Public Health Impacts

In 1994, the EPA funded the Columbia River Inter-Tribal Fish Commission to survey tribal members' fish consumption rates. The results found Columbia River tribal people eat nine to 12 times more fish than the general population. A 2002 EPA fish contaminant study found significant levels of toxics in fish that tribal people eat. Recent studies and monitoring programs have found significant levels of toxic chemicals in fish and the waters they inhabit, including DDT, PCBs, mercury, and emerging contaminants, such as PBDEs. Fish consumption advisories for mercury, DDT, and PCBs continue to be issued in every State throughout the Basin. PBDE levels are increasing in fish and wildlife throughout the Basin.

Currently, the EPA is working with the State of Oregon, and the Confederated Tribes of the Umatilla Indian Reservation, to develop revised human health criteria that will increase protection for Oregonian populations who consume high amounts of fish. These criteria are expected to be finalized in 2010, and will be the most protective state human health criteria in the United States. According to the EPA, these criteria will result in reduced toxics in point sources, non-point sources, hazardous waste clean ups, and water quality improvement plan (TMDL) implementation. The EPA also views them serving as a national and regional model for achieving increased toxics reduction and human health protections.

⁴ EPA Region 10 includes Alaska, Idaho, Oregon, and Washington.

D. Columbia River Basin Impairment Sources

There are many sources of impairment in the Columbia River Basin. However, there is little or no monitoring data in either the Columbia or Snake Rivers above the Bonneville Dam to understand proportions and exact sources of impairment.

According to EPA, the main impairments in the Basin are from non-point sources which include: agriculture; stormwater; habitat modification, especially from hydroelectric dams; and emerging contaminants such as flame retardants (including PBDEs), pharmaceuticals, and personal care products. Mercury is of great concern due to its health impacts, and because levels are increasing. The EPA estimates that 80 percent of the mercury in the basin is coming from outside the Basin (Asia) in the form of atmospheric deposition; local sources include mining, cement production and coal-fired power plants. PCBs, banned in the 1970s, are still of concern as hot spots continue to be identified. According to the EPA, the presence and operation of hydroelectric dams have created problems with water temperature and total dissolved gas. Water temperature is a critical ecosystem factor for healthy salmon populations. Agriculture and forestry, both important in the Basin, have a tremendous impact through riparian impacts (which influence water temperature), erosion, legacy impacts of DDT, and the impact of currently used pesticides. According to the EPA, there have been a few successful efforts to reduce erosion, legacy pesticides and currently used pesticides.

E. Ongoing Efforts to Reduce Columbia River Basin Impairments

The EPA has identified the Columbia River Basin as a priority Large Aquatic Ecosystem (LAE) in the EPA Strategic Plan. As an LAE, the focus is on toxics reduction for human health and ecosystem restoration. EPA Region 10 is working closely with the States of Oregon, Washington, Idaho, Columbia Basin tribal governments, the Lower Columbia River Estuary Partnership, local governments, citizen groups, industry, and other Federal agencies to develop and implement a collaborative strategy to increase monitoring and improve toxic reduction actions in the Basin. The Columbia River Basin is the only LAE to not receive an appropriation for monitoring and restoration efforts.

Part of this effort includes the Columbia River Toxics Reduction Working Group. This is a collaborative watershed group consisting of local communities, non-profits, and tribal, State, and Federal Government agencies to develop and implement a plan for reducing toxics in the Columbia River Basin. This group is in the process of implementing the Columbia River Toxics Reduction Strategy.

The Columbia River Intertribal Fish Commission was created in 1977 for regional planning, policy and decision-making for fish management. It is comprised of the Warm Springs, Yakama, Umatilla, and Nez Perce tribes.

The Lower Columbia River Estuary Partnership (LCREP) is the approved EPA NEP for the Lower Columbia River Estuary. LCREP's Comprehensive Conservation and Management Plan (CCMP) was completed in 1999. It contains 43 actions to address seven priority issue areas:

- Biological integrity;
- Impacts of human activity and growth;
- Habitat loss and modification;
- Conventional pollutants;
- Toxic contaminants;
- Institutional constraints; and
- Public awareness and stewardship.

Through a risk assessment process, LCREP has identified habitat loss as the area of greatest risk to the Lower Columbia River Estuary. Based on historical records and current studies, LCREP and the Oregon Department of Environmental Quality estimate that approximately 50 percent of wetland estuaries in the Lower Columbia River Estuary have been lost since 1870 as a result of diking, draining, filling, dredging, and flow regulation. Forested marshes in the lower 46 miles of the Lower Columbia River have decreased by up to 75 percent, and open land and water areas have also increased substantially.

Since 1999, LCREP's habitat restoration program and its work with partner entities have resulted in 4,600 acres of habitat being protected or restored. LCREP has received \$5.6 million dollars in Federal funding from the National Estuary Program over 11 years (2000-2010).⁵

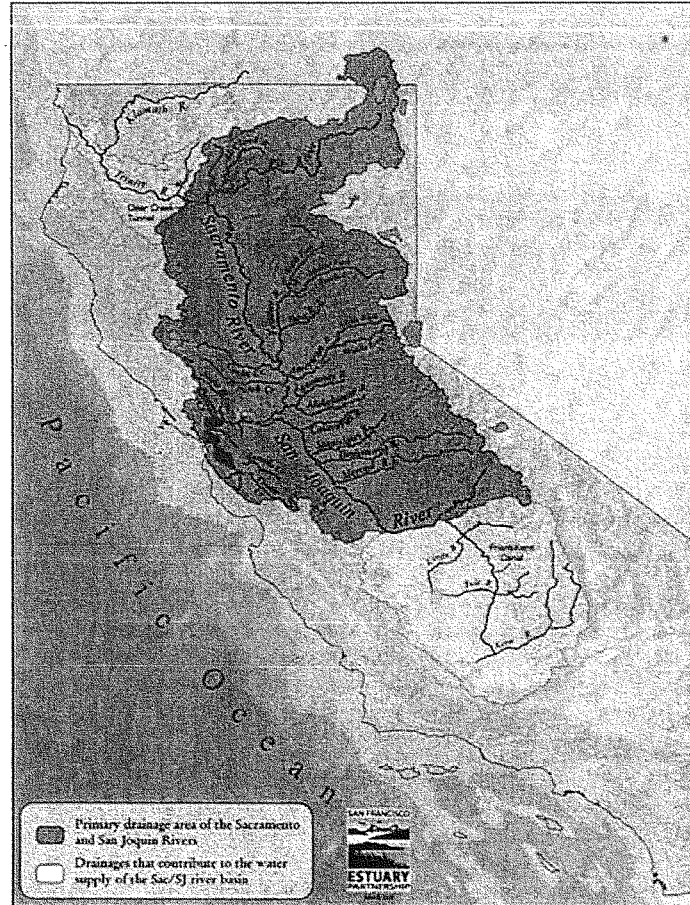
III. San Francisco Estuary Water Quality Restoration and Protection

A. *San Francisco Estuary*

The San Francisco Estuary is the largest estuary on the west coast, encompassing roughly 1,600 square miles and draining more than 40 percent of the State of California. It is a vital resource to the State, providing drinking water to 23 million Californians and irrigating 4.5 million acres of farmland. The Estuary supports a number of important economic activities in the region, including commercial and recreational fishing, shipping, industry, recreation, tourism, and agriculture. The Estuary is also home to an array of flora and fauna, with nearly half of the birds that migrate along the Pacific Flyway and about two-thirds of the State's salmon passing through the Estuary.⁶

⁵ Note that this funding does not include any other State, local, or other funds that may have been generated during this same time.

⁶ EPA, *National Estuary Program Coastal Condition Report*, EPA-842/B-06/001 (2006).



Source: <http://sfestuary.org/pages/map.php>

B. San Francisco Estuary Impairments

The EPA rates the San Francisco Estuary's overall condition as fair based on the EPA National Coastal Assessment's four indices of estuarine condition: water quality; sediment quality; benthic conditions; and fish tissue contaminants. The water quality index is rated fair to poor, with approximately 20 percent of the estuarine area rated poor and 73 percent of the estuarine area rated fair. Limited water clarity and elevated levels of dissolved nitrogen and dissolved phosphorus are the main contributors to diminished water quality in the Estuary. The sediment quality index for the

Estuary is rated fair, with sediment contaminant levels being the main driver for this rating. The Estuary received a rating of good for the condition of its benthic invertebrate community. Last, the fish tissue contaminants index is rated poor for the Estuary, with fifty-eight percent of all fish sampling stations resulted in fish caught that exceeded the EPA Advisory Guidance values for whole-fish contaminant concentrations. PCBs and mercury were the contaminants found in the fish tissues sampled.

C. San Francisco Estuary Impairment Sources

The Estuary faces a number of threats due to a long history of human alterations to, and activities in, the Estuary.

Threats to freshwater

Various stakeholders compete for water in the San Francisco Estuary region. These include the general population, industries, municipalities, as well as farmers and livestock growers. In addition, pesticides and other pollution from the region are washed into the Estuary from a variety of activities. Therefore, water quality management for the Estuary is challenging due to the large number of stakeholder uses and the non-point sources of pollution.

Population pressures

The counties that make up the San Francisco Estuary Project (SFEP) study area have experienced increases in population growth. Specifically, the population has increased 96.1 percent over a 40-year period, from 4.5 million people in 1960 to 8.7 million people in 2000.⁷ In addition, the Estuary is surrounded by densely populated metropolitan areas that serve as large centers for international commerce, as well as industrial and recreational activities.

Invasive Species

Like many other coastal areas in the United States, the San Francisco Estuary's habitat has been degraded by invasive species. For example, the giant reed, abundant by the 1820s, was introduced to California and used for erosion control along drainage canals. Because this species spreads easily, requires large amounts of water, can smother native riparian vegetation, and is highly flammable, it has become a significant nuisance species. To help combat this problem, programs aimed at eradication and education about invasive species have been started in areas throughout the Estuary.⁸ Additional invasive species in the Estuary include: the green crab; shimofuri goby; *Spartina alterniflora* and its hybrids; Asiatic clams; and Asiatic zooplankton.

Contaminants in Sediments

PCBs, pesticides, mercury, and other heavy metals are present in the San Francisco Estuary sediment, as a result of current and historical activities in California. In addition, runoff from urban areas provides a significant, contemporary source of various contaminants, including mercury and PCBs, among others. While many of these contaminants have been banned, they continue to be

⁷ *Id.*

⁸ *Id.*

persistent in the environment, by biomagnifying through the food web, and bioaccumulating in fish and wildlife.⁹

D. Ongoing Efforts to Address Impairments in the San Francisco Estuary

In 1993, the San Francisco Estuary entered the EPA's NEP. At that time, more than 100 representatives from Federal and State agencies, local governments, environmental groups, business, industry, academia, and the public, met to develop and agree to a plan for both restoring the health of, and protecting the estuary. The document that was developed through this process is called the CCMP. The CCMP is the blueprint for addressing the Estuary's challenges. An implementation committee made up of 35 to 40 of the original representatives was established to coordinate activities, set priorities, develop work plans and budgets, and convene working groups and subcommittees as needed.¹⁰

In 2007, the CCMP was updated and revised to include sea level rise, among other new action items, in addition to the original ones. Today, there are 80 member agencies, non-profits, cities and counties, and businesses that make up the San Francisco Bay Partnership.

The San Francisco Estuary Partnership has received \$5.6 million dollars in Federal funding through the NEP over eleven years (2000-2010). In addition, the Partnership received \$16.9 million in additional Federal funding from 2008-2010.¹¹

According to the EPA, the San Francisco Estuary Partnership's largest, most visible accomplishment is the great number of environmental education and outreach efforts taking place around the San Francisco Estuary, in addition to the number of watershed management planning activities.

The San Francisco Estuary still faces a number of challenges. The Estuary Partnership has identified the following challenges: preventing pollution; climate change; wetlands and streams; fish and wildlife; watersheds and land use; public involvement; water use; research and monitoring; and dredging and waterways. Due to the disparate and wide array of interests and stakeholders in the Estuary, these challenges remain and need to be addressed before the Estuary is restored and sustainable for future generations.

⁹ *Id.*

¹⁰ The San Francisco Estuary Partnership, *About the Partnership: Accomplishments* (2010), <http://www.sfestuary.org>.

¹¹ Note that these funding levels do not include any State, local or additional funding sources that may have been generated during the same time periods.

WITNESSES

PANEL I

The Honorable Doc Hastings
Washington's Fourth District
U.S House of Representatives

The Honorable Earl Blumenauer
Oregon's Third District
U.S. House of Representatives

The Honorable Jackie Speier
California's Twelfth District
U.S. House of Representatives

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Deputy Assistant Administrator
U.S. Environmental Protection Agency

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Contra Costa County

Mr. Jim Wunderman
President and Chief Executive Officer
Bay Area Council

Ms. Judy Kelly
Executive Director
San Francisco Estuary Partnership

Mr. Paul Lumley
Executive Director
Columbia River Inter-Tribal Fish Commission

Ms. Debrah Marriott
Executive Director
Lower Columbia River Estuary Partnership

Senator Jackie Dingfelder
Oregon State Senate
State of Oregon

HEARING ON PROTECTING AND RESTORING AMERICA'S GREAT WATERS, PART II: THE COLUMBIA RIVER AND SAN FRANCISCO BAY

Wednesday, April 28, 2010,

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES AND
ENVIRONMENT,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:00 p.m. in room 2167, Rayburn House Office Building, the Honorable Grace F. Napolitano [acting Chair of the Subcommittee] presiding.

Present: Representatives Napolitano, Boozman and Taylor.

Mrs. NAPOLITANO. Good morning, ladies and gentlemen.

Today's hearing is on the current state of water quality and the ecological health of two of America's great water bodies, the Columbia River and the San Francisco Bay.

This is the second hearing we have had in this Congress about our great waters, and I am very pleased the Subcommittee will receive oral testimony from Congressman Earl Blumenauer; from Congressman Doc Hastings; and from Congresswoman Jackie Speier; from the Environmental Protection Agency; the Lower Columbia River Estuary Partnership; the San Francisco Estuary Partnership; and the other stakeholders from the Columbia River and the San Francisco Bay regions.

The Chairwoman will be with us shortly. She is detained in another Committee, so I will read part of the statement that she had prepared. It goes as follows:

As I stated in my first hearing, my District in Dallas, Texas possesses neither coasts nor estuaries, but I continue to strongly believe that it is important for this Subcommittee to hold hearings on these issues because our Nation's coasts and oceans provide a wealth of resources for the entire Country.

Amongst these areas, nowhere is more valuable than our estuaries. Estuaries are the bodies of water that receive both fresh water from the rivers and salt water from the sea. This mix of water makes for a unique environment that is extremely productive in terms of its ecosystem values. Estuaries are rich in plant life, coastal habitat, and living species.

The ecological productivity of these regions translates directly into economic productivity. It seems to me that a central problem in the protection and restoration of the estuaries is that they ultimately lie downstream from all. Everything that enters the small-

est stream, tributary or headwater in the watershed eventually runs into an estuary, impacting in some way all the biological elements of that ecosystem and all of the commerce that revolves about it.

I am interested in hearing how the lower Columbia River Estuary Partnership and the San Francisco Estuary Partnership have addressed pollution issues in their respective regions, and what actions they propose to be addressed in the future.

I would imagine that in order to restore and protect any large water system like these estuaries, there needs to be a coordinated effort between the Federal, the State and the local governments, as well as all stakeholders in that region. The Federal Government alone cannot restore water quality and protect our Nation's great waters. Rather, proper watershed management and estuarine protection must be a process that involves all levels of government and all manner of stakeholders.

The Federal Government does indeed have a role to play. However, only through the active involvement of all levels of government will we be able to restore and protect our coast and estuaries.

I look forward to hearing the witnesses' thoughts on the initiatives used to date to address pollution in the Columbia River and the San Francisco Bay, as well as ideas on future action and tools we can apply towards finally cleaning up these great bodies of water.

That is her statement.

I am Chair of the Subcommittee on Water and Power and I could not agree more. We have delved in a lot of these issues of pollution of our canals, our waters, and our streams, and we will need to work together. I am proposing that we do some joint hearings to be able to ensure further protection and ensure further assistance, not only from the Federal Government, but in partnership with all the stakeholders.

So I am very, very happy to be here today and be Acting Chair.

We welcome all the witnesses and I yield to Ranking Member of the Subcommittee, Mr. Boozman, for any comments he may have.

Mr. BOOZMAN. Thank you, Madam Chair.

The Subcommittee is meeting today to hear testimony on two water bodies that are part of the National Estuary Program, the Columbia River and the San Francisco Bay. Estuaries are unique and highly productive waters that are important to the ecological and economic base of our Nation.

Fisheries, wildlife, recreation and tourism are heavily dependent on healthy estuary systems. Yet, despite their value, most estuaries in the United States are experiencing stress from physical alteration and pollution, often resulting from development and rapid population growth in our coastal areas.

The National Estuary Program identifies nationally significant estuaries that are threatened by pollution, land development and overuse, and provides grants to support development of management plans to protect and restore them. The program is designed to resolve issues at a watershed level, integrate science into the decision-making process, foster collaborative problem-solving, and involve the public.

Unlike many other EPA and State programs that rely on conventional top down regulatory measures to achieve environmental goals, the National Estuary Program uses a framework that focuses on stakeholder involvement and interaction in tailor solutions for problems that are specific to that region in order to achieve estuarine protection and restoration goals.

Currently, the Columbia River and San Francisco Bay are two of the 28 estuaries in the National Estuary Program, and both are implementing restoration plans developed at the local level through a collaborative process. We need to be sure that the individual estuary programs continue to effectively implement their management plans for protecting and restoring estuaries. We need to be careful not to add new layers of programmatic bureaucracy on the programs that could divert valuable resources away from implementing their plans.

These are ecological treasures we are discussing today. It is clear from the testimony from the witnesses that progress has been made in the Columbia River and San Francisco Bay. However, at this unique time in our Nation's history, we should not just be careful in what we fund, but also in what we authorize.

Each of these two estuaries has a corresponding bill that has been referred to this Committee. Each bill amends the National Estuary Program in the Clean Water Act and creates a separate program for funding the specific estuary. As this is not a legislative hearing, we are only going to hear from a few witnesses today. However, I would suggest that should we decide to move forward on the bills, and any bills that come before the Committee, that we hold a legislative hearing to more closely examine the issues in our jurisdiction.

I look forward to the testimony of our witnesses today and learning more about the progress that is being made in the two estuaries.

And with that, I yield back.

Mrs. NAPOLITANO. Thank you, sir.

Our first panel this morning includes three of our colleagues from the House of Representatives. Our first witness is Congressman Doc Hastings. Welcome, sir, I am glad to be working with you.

Next, Congressman Earl Blumenauer, who is a former Member of this Committee, who will also testify. I am happy to welcome him back to this room.

Our next witness is also a Member of Congress, Congresswoman Speier, a new Member of Congress, but who has gained a very solid reputation for defending and protecting San Francisco Bay. And welcome.

As is tradition of this Committee, there will be no questions of the Members after their testimony. And with that, Congressman Hastings, please proceed.

Mr. HASTINGS. Madam Chair, I wonder if I could just give deference to the sponsor of the legislation, Mr. Blumenauer. I am more than happy to go first, and I appreciate that, but he is the sponsor of the legislation.

Mrs. NAPOLITANO. You yield to him, sir? It is your prerogative.

Mr. HASTINGS. Well, I will yield my time as long as he will yield me his time.

[Laughter.]

TESTIMONY OF THE HONORABLE EARL BLUMENAUER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON; THE HONORABLE DOC HASTINGS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON; THE HONORABLE JACKIE SPEIER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. BLUMENAUER. Thank you, Doc.

Madam Chair, Ranking Member, I deeply appreciate your allowing us to be here today, and I want to strongly echo my support for the concepts that both of you had in your opening statements. I think you got it right.

I want to particularly reference the Columbia River, which is important to the economy and ecology not just of my State, but really to the entire Nation. It is the largest river in the Pacific Northwest, the fourth largest river in the Country by volume. It has a drainage area that extends to seven States and Canada, and includes all or part of five national parks.

The Columbia was traditionally the largest salmon-producing river system in the world, and the salmon are still an integral part of the culture and livelihood of many people in the region, some of whom you will hear from today.

The Columbia River Basin also includes more than 6 million acres of irrigated agriculture land, and its hydroelectric dams produce more power than any other in a North American river. There are approximately 8 million people who live in the Basin and depend upon its resources.

The EPA recognized the importance of the river to the Nation when it named the Lower Columbia River estuary "an estuary of national significance" in 1995, and the Basin, "a large aquatic ecosystem" in 2006. But it has never really been funded pursuant to these designations, which is the reason for the parallel legislation that we have introduced.

For too long, sadly, we have treated the river like a machine. As a result, much of it is degraded. In the last 100 years, wildlife habitat in the Lower Columbia River has decreased by as much as 75 percent. Many of the once plentiful salmon runs are now listed as endangered or threatened under the Endangered Species Act.

In addition to the loss of habitat, the Columbia suffers from toxic contamination, including significant levels of dioxin, PCBs, heavy metals and other toxic chemicals, the result of human activities over the last 150 years. And I think my friend, Mr. Hastings, even makes some comment about radioactive activity in the Basin. He has been a leader in trying to lead the Federal Government to deal with that problem.

The problems persist today as a result of continued industrial waste, stormwater runoff, sewer overflows and discharge water contaminated with new chemicals, including flame retardants, pharmaceuticals, and personal care products. These contaminants impair the growth, health and reproduction of salmon, eagles and other fish and wildlife. They present a threat not only to the ecosystem of the Basin, but to the humans who depend upon it.

The EPA has detected the presence of 92 priority pollutants in fish that are consumed by humans. And a fish consumption survey I believe you will hear about in more detail showed that Native American tribal members eat six to 11 times more fish than the EPA's estimated national average. This means that toxic contamination of the river is putting tribal members at risk.

Unfortunately, the existing Federal investments in this area are not on a scale necessary to implement sustained monitoring or make significant progress towards reducing toxins. Despite being a major priority of the EPA's work in the Basin, toxics reduction receives very little funding.

That is why I, along with Committee Member Brian Baird and other Members of the Oregon and Washington delegations have introduced this Columbia River Restoration Act to provide EPA and the stakeholders in the region with funding to identify, understand and reduce contaminant sources, expand toxics reduction activities, and coordinate toxics efforts with habitat restoration. Senator Merkley has introduced companion legislation in the Senate.

This Act establishes a program team within the Oregon Operations Office of the regional EPA. The team will assist, support and coordinate implementation of toxic reduction and habitat restoration efforts on the river. The bill would provide resources to successful structures that are already in place, such as the Lower Columbia River Estuary Partnership without duplicating efforts.

EPA's most recent strategic plan, which designated the Columbia River Basin as a large aquatic ecosystem included a goal to "protect, sustain or restore the health of people, communities and ecosystems, using integrated and comprehensive approaches and partnerships." This legislation captures that goal.

The bill will ensure that the billions, billions with a B, we are currently spending to protect and restore endangered salmon runs on the river are being used efficiently. And we are not just saving salmon to have them swim in a toxic river.

Efforts to clean up the Columbia Basin are complicated by a Superfund site in one of its tributaries, important industries along the river, navigation traffic, an economically important fishery in ESA-listed species. But the EPA set up the Large Aquatic Ecosystem Program to make progress on exactly these types of complex water management challenges.

The bill will help the Federal Government be a better partner to local communities by supporting non-regulatory community-based programs that will achieve results, focusing on on the ground activities driven by local communities, with coordination and technical support and base funding coming from the Federal Government.

By embracing this legislation, this Committee has an opportunity to contribute to the restoration of a nationally significant river. It is not just about conserving the environment. It is a public health issue, an economic issue, an environmental justice issue. The bill will also create jobs. Restoration projects will employ technicians, maintenance specialists, construction engineers, laborers, biologists and contractors. This is important to a State like ours with an unemployment rate that is in the double digits.

I hope the Committee will work with us to move this legislation through the process quickly so we can begin this important work as soon as possible.

Thank you very much.

Mrs. NAPOLITANO. Thank you, Congressman.

And now we will hear from Doc Hastings.

Mr. HASTINGS. Thank you, Madam Chairman. I appreciate this. And Ranking Member Boozman, thank you for allowing me to be here to put my thoughts in order.

In 1995, the Lower Columbia Estuary System was put in place as part of one of the 28 estuaries worldwide. And I applaud the work that they are doing. It is a public-private partnership between Washington and Oregon, with 28 cities and other entities involved.

Since 1999, this plan that was implemented specifically defining estuaries as "the area where the fresh water of the river meets the salt water of the ocean." And I point that out because this occurs about 146 miles from the Columbia River. Nevertheless, the partners management plan covers an area up to Bonneville Dam. That is 146 miles from the river. I totally agree with the work that they are doing in that area because I think it is connected.

And while I appreciate the good intentions that are part of this bill, I must say that I have great concerns about what the scope of the bill does because the bill proposes to greatly expand the scope and management of the Columbia River beyond the estuary that I just talked about.

For example, it will impact 500 miles of the Columbia River and its tributaries in my District alone. It also impacts above Bonneville Dam, 745 miles to the Canadian border. That is far removed from the estuary. In that area, there are 11 major Federal and non-Federal dams. There is a national monument. There is the Hanford Project that Mr. Blumenauer alluded to, and there are 600,000 acres of irrigated farmland that is irrigated by the Columbia River.

So this has a huge impact in my District, but also goes beyond that to the Snake River in Washington and Idaho. There is a \$10 billion economic impact from just commerce coming down that part of the river, and the tributaries of the Columbia and the Snake that goes to Eastern Washington, Oregon, Idaho, Montana, Wyoming, parts of Nevada and Utah. In other words, this goes far beyond the estuary as defined by the group.

Now, I have to say, this expansion should not be minimized or understated. So as we move through on this bill and talk about this, I would like to say something that I am very concerned about. And that is that I was not contacted by the sponsors of this bill until the day before this bill was introduced.

Now, I regret that because we in the Northwest have worked very closely on a lot of pieces of legislation that impact all of us, and I would have at least like to have had the courtesy to say, okay, this is what is being contemplated. And that simply was not the case.

Now, let me be clear. I would support legislation that focuses on the Columbia River estuary. I want to make that absolutely clear. I have no problem with that. But when we greatly expand this, we ought to see exactly what the consequences of this bill are. For ex-

ample, this bill is silent on litigation that is being involved in the whole Columbia River. And I might add, the Columbia River is probably the most litigated river in the United States.

This bill also makes reference, giving EPA the authority to I guess have authority over issues that are given to other Federal agencies, like NOAA, like the Corps of Engineers, like Bonneville Power, like the U.S. Fish and Wildlife Service, like the Bureau of Reclamation, and like the Department of Energy.

In other words, the bill as it is written could destroy, from my point of view, the collaboration that is going on among these agencies. And I think that is something that needs to be addressed very specifically.

Furthermore, and let me just be very specific, section 123(b) would authorize the EPA Administrator to establish, "a Columbia River program team" led by a team leader "designated to coordinate all the functions or several functions, including the Endangered Species Act."

Now, I am the Ranking Member on the Committee on Natural Resources. We have authority on that, and I think that our Committee ought to have the ability to review what potential that would have.

So Madam Chair, I just want to make this point. I support the Estuary Program. This bill as written greatly, greatly as it relates to the Columbia River, expands that scope, and not only to the Columbia River, but to all the tributaries, as I pointed out.

And one last point that I think needs to be taken into consideration, because you are hearing two bills today. This bill alone authorizes \$40 million, which is more than is authorized for all of the Estuary Programs in this Country combined.

So as this legislation moves forward, if it moves forward, I would certainly hope that there is coordination and correspondence and talk among those Members that are impacted by this bill. But in short, I support the Estuary Program. I do not support the tremendous expansion that this would have on the Columbia River that is not defined as the estuary.

Thank you allowing me to have the opportunity to be here.

Mrs. NAPOLITANO. Thank you, Congressman Hastings.

We have a vote. We have 10 minutes, so we would like to move on to Ms. Speier and then we will recess until we take the next vote.

Mr. BLUMENAUER. Just for 15 seconds. Now I see why my colleague wanted me to go first. I will provide information on this, but I want to give the Congressman a copy of the information where he was in fact invited.

Mrs. NAPOLITANO. Fine. Let's go with Ms. Speier. Thank you.

Ms. Speier?

Mr. HASTINGS. Could I ask unanimous consent my full statement appear in the record? I don't think I asked.

Mrs. NAPOLITANO. Certainly.

Without objection, so ordered.

Ms. SPEIER. Acting Chairwoman Napolitano and Ranking Member, Mr. Boozman, thank you for the opportunity to testify this afternoon. Thank you also for your opening comments that recog-

nize the importance of our 28 national estuaries and the importance they have to enhancing and protecting them in the future.

San Francisco Bay is an economic engine for the entire world. It is a center of world trade and a gateway for goods from around the Pacific Rim. The Bay Area is also a beacon for the kind of ingenuity and groundbreaking discoveries that revolutionized the way we live, from advancements in medicine and biotechnology, to clean energy and environmental sustainability.

According to recent estimates, the Bay Area generates more than \$370 billion in goods and services annually, and is home to 3.5 million jobs, which contribute greatly to our national skilled workforce.

Underlying the tremendous economic importance of the Bay Area, however, is a population of over 7.5 million people, most of whom live within five miles of the bay itself. Our progress has come at significant cost to the ecosystem upon which we depend.

Today, much of San Francisco Bay estuary is under threat from pollution, invasive species, and habitat losses. Over 90 percent of the bay's wetlands are now gone, and the size of the bay has been reduced by over one-third. Infill and development have polluted the water and diminished the fish and wildlife in the bay, which is now home to over 100 threatened and endangered species.

Over 40 percent of California drains through the bay into the Pacific Ocean, taking a large amount of toxic runoff with it, contaminating water and air quality, and consequently threatening public health, tourism and recreation.

We also face the urgent need to adapt to climate change, and this is particularly critical. San Francisco Bay Area is ground zero for the sea level rise that we will see along the coastline. Mid-range projections for sea level rise will put San Francisco International Airport, shoreline communities, and other development under water. The projected cost of such a sea level rise to infrastructure and property is estimated at more than \$60 billion.

We in the Bay Area live on the edge. The decisions we make today will help the bay flourish, or leave it to the mercy of both manmade development and a rapidly changing planet.

For all these reasons, I have introduced H.R. 5061, the San Francisco Bay Improvement Act, legislation that authorizes \$100 million annually for 10 years to the EPA to fund San Francisco Bay restoration.

I believe this legislation provides a responsible roadmap forward to preserve and protect the vital natural resource. The important needs of the bay have been well documented, but woefully underfunded for many years. Increased Federal funding is crucial to the Federal, State and local partnership charged with restoring San Francisco Bay, and will build on our strong track record of efficiently leveraging non-Federal resources.

My bill also gives the EPA direct oversight of the Federal investment and ensures that any new funding is accountable to the master plan Congress set out for the Bay Area over 20 years ago. That plan has actually been revisited as of 2007. So the roadmap is there. The needs of the Bay have been well defined, and this bill moves us in the direction to restore the Bay.

I thank you, Madam Chair.

Mrs. NAPOLITANO. Thank you, Congresswoman Speier.

We have about a little over six minutes to get to the Floor to vote. I will recess. We have four votes, so we should be back here in about a half hour to 45 minutes. It depends on how long the votes are.

So with that, this meeting is recessed.

Thank you.

[Recess.]

Mrs. NAPOLITANO. This reconvenes the Subcommittee hearing of Water Resources and Environment on Protecting and Restoring America's Great Waters, Part II: The Columbia River and the San Francisco Bay.

We will begin with our second panel, our witness from the EPA, Environmental Protection Agency, Ms. Nancy Stoner, Deputy Assistant Administrator in the Office of Water and Environmental Protection Agency.

Ms. Stoner, welcome. And I have to tell you that in my area in Southern California, we have great working relationships with EPA. They have done a lot of helpful things for us. And we hope that we will continue to have that for the other projects that we have. So for all of us here in Congress, thank you very much and you may proceed.

TESTIMONY OF NANCY STONER, DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF WATER, U.S. ENVIRONMENTAL PROTECTION AGENCY

Ms. STONER. Thank you. That is wonderful to hear.

Good afternoon. I am Nancy Stoner, Deputy Assistant Administrator for the Office of Water at the United States Environmental Protection Agency, and I appreciate the opportunity to testify on two large aquatic ecosystems, the Columbia River Basin and San Francisco Bay, and the EPA programs that work to protect and restore them.

First, I want to reiterate EPA's commitment to carrying out the Clean Water Act. The protection and restoration of America's waters is essential for our quality of life, economic potential and human health. Our water bodies are imperiled as never before from a growing number of threats that include excessive nutrient loadings, polluted stormwater runoff, and destructive invasive species.

The Columbia River Basin Program is an EPA large aquatic ecosystem that covers a major portion of North America, including parts of seven U.S. States and British Columbia. The basin provides drainage through an area of more than 260,000 square miles into a river nearly 1,200 miles in length. The Columbia River Basin provides an important North American backdrop for urban settlement and development, agriculture, transportation, recreation, fisheries and hydropower.

The Columbia River Basin's unique ecosystem is home to many important plants and animals. Columbia River salmon and steelhead runs were once the largest runs in the world, but are now threatened and endangered in large part due to habitat and water issues, including toxics.

The tribal people of the Columbia River have depended on these salmon for thousands of years for human, spiritual and cultural sustenance. Salmon restoration, together with toxics reduction in

the Columbia River Basin is a key environmental justice issue for EPA.

The Columbia River Basin Program is an EPA large aquatic estuary that has successfully reduced toxics in fish, water and sediment of the Columbia River Basin and implemented a collaborative monitoring and research strategy to understand toxic loads, emerging contaminants and overall ecosystem health.

The Columbia River Basin Program has identified the following priorities that need urgent attention: strengthened water quality standards to protect tribal members and others who eat a large amount of fish from the Columbia River; long-term monitoring for the Columbia River Basin with an emphasis on emerging contaminants of concern; integration of Columbia River Basin salmon recovery efforts with toxics reduction; enhanced agricultural partnerships to reduce sediment and pesticide loadings; as well as more assistance to farmers in more sustainable practices; and increased application of EPA's Green Chemistry and Design for the Environment Program concepts within the basin to address pollution prevention.

The San Francisco Bay delta estuary is the largest estuary on the West Coast of North America. Its 4 million acre watershed covers more than 40 percent of California and includes drainage basins for the Sacramento and San Joaquin Rivers, the Sacramento-San Joaquin Delta, and San Francisco Bay.

San Francisco Bay is the defining natural feature that makes the Bay Area a unique and beautiful place to live. Of national renown, the bay is valuable not only for its aesthetic qualities, but also for the critical habitat it provides for native and migrating fish and waterfowl, and its moderating effect on the local climate, the recreational opportunities it affords, and the tourist trade and fishery economies it supports.

The San Francisco Bay is also confronted by a wide range of challenges that include rapid and unplanned urban development resulting in greater pollutant loading; legacy pollution; new emerging contaminants like pharmaceuticals; destruction of the bay's historic wetland habitat; and an aging infrastructure that releases sewage and other pollutants.

To address these challenges, the San Francisco Bay Program is strengthening implementation of the San Francisco Estuary Partnership's comprehensive conservation and management plan by supporting its new strategic plan; reducing urban runoff impacts on water quality through more effective stormwater permitting and enforcement; creating incentives to utilize low impact development techniques; implementing a comprehensive grant program to improve water quality and restore the San Francisco Bay watershed; and increasing the effectiveness of regulatory programs to protect wetlands and streams, while continuing to support restoration of wetlands acreage.

The two bills that we are discussing today are consistent with EPA's commitment to protect and restore these national treasures. EPA is fortunate to have excellent longstanding collaborative relationships with both the Lower Columbia River Estuary Partnership and the San Francisco Estuary Partnership through EPA's National Estuary Program.

Efforts to expand needed support for these significant large aquatic ecosystems should be carefully reviewed to ensure that they effectively build on existing efforts.

So I ask that my full written statement be made part of the record of this hearing, and I would be happy to answer any questions you may have at this time.

Mrs. NAPOLITANO. Without objection, so ordered.

Thank you for your testimony, Ms. Stoner. And I will start off.

And I guess maybe because I have dealt with some of the issues of water in California, and especially with contaminated waters from pollutants such as DDT going into the ocean from outfalls, to some of the contaminants in the drinking water from the Farrow River and especially water coming down from the delta. So we have a great inherent interest in what you are doing in EPA. Both Representative Blumenauer and Representative Speier introduced legislation to create more robust programs for the Columbia River and for the San Francisco Bay. But why aren't the existing programs under EPA and the authorities enough? And what else can we, the Federal Government, do to help in these large scale restoration efforts? But how do more of these programs help foster EPA's overall goal for the protection and restoration of the rivers?

We are not doing enough to educate the public. We are not doing enough to outreach to the chemical community to come up with new or better ways of producing, using, and disposing of pesticides and all the other things that end up in the river, even pharmaceuticals, because all of that ultimately translates into our drinking water.

How can we work better?

Ms. STONER. Thank you. Well, EPA is very proud of its National Estuary Partnership Program. And we do think that we are accomplishing a lot with that program and the collaborative effort that it represents, and the partners that we have made.

I think, though, that there are additional needs in both of these watersheds.

Mrs. NAPOLITANO. Such as?

Ms. STONER. Additional work in terms of, as I mentioned, salmon restoration and toxics reduction; as you mentioned, education of the public; working with pollution sources on various different kinds of program. Erosion control, for example, has been one program that has been successful.

There is plenty of additional work that could be done, and the two pieces of legislation we are discussing today would build on those existing successful efforts, and expand their scope, and provide additional funding.

So those are all additional needs that could be met.

Mrs. NAPOLITANO. Okay, so in essence you are saying to a certain degree that there is not enough funding available to be able to do more in-depth research, development, addressing education.

Ms. STONER. There are lots of additional needs. There is additional monitoring which is needed that is discussed in the legislation. That is always a need; identifying sources; identifying solutions; working with partners to put those in place.

As you well recognize, there is plenty of work to be done. But again, we are proud of what we have done so far and we were de-

lighted to see that the National Estuary Program is the foundation of these bills.

Mrs. NAPOLITANO. And you do have collaborative programs with other Federal agencies?

Ms. STONER. Absolutely. We work with our Federal partners throughout these watersheds. That would strengthen those partnerships and that collaboration and coordination. That is one of the elements in the bills.

Mrs. NAPOLITANO. Thank you.

I yield to Ranking Member Boozman.

Mr. BOOZMAN. Thank you, Madam Chair.

Dr. Stoner, according to the EPA, the San Francisco Bay and the Columbia River are readiness fair. In fiscal year 2010, EPA requested \$5 million in funding for San Francisco Bay and received \$7 million through the annual appropriations process, in addition to what it receives from the National Estuary Program. While this is an important estuary, of the 28 estuaries in the Program, how many are readiness poor and how much funding is provided for those estuaries? And in what case would a fair estuary get priority funding over a poor estuary?

Ms. STONER. I am afraid I don't know the answer to the question about how many were rated as poor, so I have to get back to you on that information.

Mr. BOOZMAN. Okay. In what case would a fair estuary get priority funding over a poor estuary?

Ms. STONER. I think it might depend upon the needs of the estuary, the size of the estuary, potentially the development of the plan; how well developed the plan is; how well the partnership is working; and whether there are additional needs that could be appropriately funded and achieve the most benefits.

There are always very tough decisions in budget negotiations, as I am sure you know, and many important needs and priorities. I don't think there is just one particular scale that is used. To my knowledge, I am sure there are lots of factors that are considered.

Mr. BOOZMAN. According to the National Estuary Program's brochure, NEPs have obtained over \$10 for every \$1 provided by EPA, generating nearly \$4 billion for the on the ground effort since 2003. Does EPA track what has been accomplished with the \$4 billion? If so, what benefits have been derived from the \$4 billion? And what has the \$4 billion been spent on?

Ms. STONER. This is \$4 billion from what, Congressman? I am sorry.

Mr. BOOZMAN. The NEPs.

Ms. STONER. The \$4 billion that is the Federal contribution?

Mr. BOOZMAN. No. In other words, they generate \$10 for every \$1 provided by EPA.

Ms. STONER. Okay. Thank you. We are proud of the fact that one of the benefits of the NEP is that it does leverage private contributions as well, through the partnership efforts and the voluntary collaborative efforts that we work on together. We do track the progress of the NEP with regular reports on the accomplishments and the progress that is being made.

Mr. BOOZMAN. Okay. In the last 10 years, how much EPA funding has been dedicated to the San Francisco Bay? How much EPA

funding has been dedicated to the Columbia River? And can you quantify for us the benefits that have resulted in the investment?

Ms. STONER. The information that I have is, you are looking for the past how many years, Congressman?

Mr. BOOZMAN. Five or 10, really whatever you have.

Ms. STONER. Okay. All right. Well, the total for the NEP from 2000 to 2010 is \$243,776,000. And for San Francisco, the funding information appears to be \$16 million. If I have the Columbia River number, I don't see that in front of me right now, so, I would have to get back to you on that.

We do have a number of accomplishments in the toxics action plan and the development of the comprehensive conservation and management plans for both watersheds. In the recent update of that plan for San Francisco, we have monitoring that has been done. We have toxics reduction. We have in fact a delisting in the Yakima River due to toxics reduction. We have wetlands restoration numbers that we could give to you in terms of acreage of wetlands that have been restored.

We feel like these are programs that are very successful in addressing the habitat issues, the toxics issues, the stormwater and infrastructure issues. And I would be happy to provide more information for the record on that.

Mr. BOOZMAN. Thank you very much.

Mrs. NAPOLITANO. Ms. Stoner, it is our understanding, and you just mentioned you couldn't find anything for the Columbia River large aquatic ecosystem, but it is my information that along with the Pacific Islands, it is the only member of the Council of Large Aquatic Ecosystems that has not received any dedicated funding. Could you verify that?

Ms. STONER. That is what I will get back to the Committee on, yes.

Mrs. NAPOLITANO. Okay. Because that is a question that, of course, that deals directly with Mr. Boozman's question.

What are the implications of this to the health of the Columbia River Basin then?

Ms. STONER. Again, there are definitely additional needs in the Columbia River Basin, and I am sure additional funding could be utilized to address those needs.

Mrs. NAPOLITANO. Right, but specifically to the health of the river itself in so far as the fish, the health of the ecosystem, the environment, any of the cities that are alongside that draw water from the river, all those things. What would be the implications?

Ms. STONER. The Columbia River system has a number of impairments associated with it. As we have been discussing, one of them is toxics and fish consumption issues associated with it. So that is a human health issue. It is an environmental justice issue. It is a very significant issue.

And so those needs are great for the river.

Mrs. NAPOLITANO. In your testimony, ma'am, you note that salmon restoration is the key environmental justice issue for EPA. Would you please explain how you will therefore act on this matter, given it has been identified as a key environmental justice issue? And I can tell you in Jackie Speier's area, the salmon fisheries just started after, this is the third year that they have not been able

to do salmon fishing because of the decline of the population. So has any of this happened along the Columbia? Along with the other question.

Ms. STONER. Right. Well, the toxic reduction action plan is designed to address this problem. As I mentioned earlier, one of the approaches that we have used and has been working to address toxics as it comes from eroded land is through efforts at erosion control. That is one of the methods that we are currently doing studies on where the sources of toxics come from, and identifying those sources is the best way in identifying the collaborative partnerships that we can use to then address toxics.

Mrs. NAPOLITANO. And the potential sources are?

Ms. STONER. Well, a lot of these are legacy pollutants, so a lot of them have been in the water for some time in the sediments and so forth. Sometimes they are in the soil. Sometimes you also have toxics that come from runoff from the streets; could be stormwater pollution; can be air deposition; can be farm runoff. There are lots of different potential sources.

And so figuring out where these are most available and can be addressed most effectively is our approach.

Mrs. NAPOLITANO. I notice that selenium was not mentioned. Is that also a problem?

Ms. STONER. Selenium is often found in soil and definitely can be a significant issue.

Mrs. NAPOLITANO. Okay. Thank you, ma'am.

Mr. BOOZMAN?

Mr. BOOZMAN. Yes, ma'am, a couple of things. I guess really what I would like to know, and I think the Committee would—we have really spent a lot of money—and the idea that things are getting better really doesn't get it. I guess what I would like to know is, and you might not have the specific information now or your staff that is with you might not have it, but I think the Committee really would like to know some specifics as to exactly what is going on, if we are moving in the right direction and how you measure that. I think it is important to measure that.

The other thing is that EPA requested specific line item funding in 2010 and 2011 for San Francisco. Again, the Columbia and San Francisco are both readiness fair. So I guess what I would like to know, and it sounds like you don't really have the information now as to how you make that determination.

Ms. STONER. No, sir, I was not involved in the budget decisions with respect to this. And so I don't know the criteria that were considered. I can inquire.

Mr. BOOZMAN. Okay. Well, again, like I said, so you don't have anything to do with the—they don't ask you?

Ms. STONER. I wasn't involved in the budget decisions last year. I actually joined the agency a couple of months ago.

Mr. BOOZMAN. Okay. Well, again, and like I said, I understand then that you don't have it, but hopefully somebody has some information laying around somewhere as to how they made that determination. And so if you would send that over for the record, we would appreciate that.

Ms. STONER. Again, yes, I am confident that it was well thought through and that a number of factors were considered. I do know

that those decisions are very difficult and require a lot of discussion. And so I am confident that there were people who were involved in those discussions. It just wasn't me.

Mr. BOOZMAN. Thank you very much.

Mrs. NAPOLITANO. Thank you, Ms. Stoner. And I may say that the San Francisco Bay Area is not in my area, but we treasure it deeply, especially because we get a lot of the water from the northern part of California and it is an area that if it affects them, it will affect Southern California. So we look at it very, very closely.

Ms. STONER. Well, these are both beautiful areas of the Country and fabulous resources. So it is very important to us, as I am sure it is to you, to ensure that they are protected and restored.

Mrs. NAPOLITANO. Very much so. Thank you for your testimony. You are dismissed. And we would like to call our third and last panel of the afternoon, consisting of additional stakeholders in the Columbia River Basin and the San Francisco estuary.

First, Mr. John Gioia will testify. He is on the Contra Costa County Board of Supervisors. Our second witness is Mr. Jim Wunderman, the President and Chief Executive Officer of the Bay Area Council. And following will be Ms. Judy Kelly, Executive Director of the San Francisco Estuary Partnership. Our fourth witness is Mr. Paul Lumley, Executive Director of the Columbia River Inter-Tribal Fish Commission, followed by Debrah Marriott, Executive Director of the Lower Columbia River Estuary Partnership; and last but certainly not least, Senator Jackie Dingfelder from the Oregon State Senate joining us today.

Welcome to our panel, and your full statements will be placed on the record. So we ask that you try to limit your testimony to your salient points, to five minutes as a courtesy to the rest of the witnesses. And we will begin with our first witness. Mr. Gioia, you are it.

TESTIMONY OF JOHN GIOIA, CHAIR, CONTRA COSTA COUNTY BOARD OF SUPERVISORS; JIM WUNDERMAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, BAY AREA COUNCIL; JUDY KELLY, EXECUTIVE DIRECTOR, SAN FRANCISCO ESTUARY PARTNERSHIP; PAUL LUMLEY, EXECUTIVE DIRECTOR, COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION; DEBRAH MARRIOTT, EXECUTIVE DIRECTOR, LOWER COLUMBIA RIVER ESTUARY PARTNERSHIP; SENATOR JACKIE DINGFELDER, OREGON STATE SENATE

Mr. GIOIA. Thank you.

Madam Chair, Members of the Subcommittee, my name is John Gioia. I am here today to testify from the perspective of local governments in the San Francisco Bay Area about the great need for increased Federal investment for San Francisco Bay.

I am the Chair of the Contra Costa Board of Supervisors and serve on a number of Bay Area regional commissions.

The restoration of San Francisco Bay is of national importance and warrants substantial Federal investment. The bay's health impacts both local and national economies. The bay is home to about 3.5 million jobs.

While San Francisco Bay benefits the national economy, local governments are increasingly bearing the primary cost of steward-

ship of the bay. One of the biggest challenges to maintaining the bay's health is the fact that it is the most urbanized estuary in the Nation. Nearly 7.5 million people live in the Bay Area and half of this population lives within five miles of the bay.

The good news is that over the past few decades, local governments in the Bay Area, working with citizen and environmental groups, have taken proactive steps to reverse the steady decline in the ecological health of the bay. They set in motion a comprehensive planning effort to improve the health and vitality of the bay.

Local agencies around the bay maintain the highest standards of pollution control in the Nation. But today, we find that we are unable to meet our own high standards due to the deterioration of an aged infrastructure system in the face of a growing population and declining revenues. The cost to improve this system are well beyond the ability of local agencies.

We face substantial costs to upgrade our wastewater collection and treatment systems to ensure prevention of sewage outflows that damage the bay. We need to upgrade regional treatment plants and build new distribution networks to replace the wasteful use of potable water with recycled water.

An even bigger problem is stormwater runoff, which is the largest contributor to bay pollution and the most difficult to manage. In addition to runoff from communities within the Bay Area, urban and agricultural runoff from our vast central valley also ultimately reaches the bay.

Bay Area communities are aggressively tackling the problem of stormwater runoff, but face a major financing obstacle. Local governments need a two-thirds vote of the people to raise funds for stormwater management programs. As a result, management of stormwater quality is significantly underfunded. Consequently, our region is spending the least amount of money on one of the biggest pollution problems. A Federal investment will leverage increased local dollars.

Bay Area agencies are working cooperatively to solve our region's problems. We are tackling transportation, air and water quality, and land use issues on a regional level. All of these issues impact the health of San Francisco Bay. Federal assistance to support these efforts will leverage greater local dollars to sustain these initiatives.

Bay Area leaders recognize that land use planning has enormous impacts on water and air quality. As a result, the Association of Bay Area Governments has led a regional effort to focus on infill development in areas where there is access to transit, jobs and utility capacity.

The Bay Conservation and Development Commission has established a climate change planning program to identify and report on the impacts of climate change on the bay and identify strategies for adapting to climate change. Communities around the bay have been working collaboratively on a variety of scientific endeavors to improve the health of the bay.

Finally, and probably most exciting, is the establishment of the San Francisco Bay Restoration Authority, which is a new regional government agency charged with restoring San Francisco Bay through the raising and granting of funds to restore the bay's crit-

ical tidal wetlands. Today, over 36,000 acres of restorable bay shoreline is in public ownership and proposed for restoration to tidal wetlands. Restoring these 36,000 acres will cost up to \$1.4 billion.

While there is identified Federal and State funding available to complete some of this work, the Authority's mission is to formulate a strategy for raising local revenues to fill this funding gap. Additional Federal investment in this effort would greatly increase support for local funding.

In conclusion, the San Francisco Bay Area is on the verge of implementing a successful plan to restore our treasured estuary. We have a blueprint for restoring the bay, strong regional leadership on this issue, a history of successful collaboration among local and State agencies and active citizen groups, and we have the commitment and expertise to carry this out.

All we need is a strengthened partnership with the Federal Government, along with an increased investment, and we will be able to make great strides in improving the health of this critically important estuary for the region, the Nation and the world to enjoy for generations to come.

Thank you for the chance to testify before you today.

Mrs. NAPOLITANO. Thank you, Supervisor.

Now, we turn to Mr. Jim Wunderman.

Mr. WUNDERMAN. Good afternoon and thank you, Madam Chair. It is a pleasure and honor to be here today.

My name is Jim Wunderman. I am the President and CEO of the Bay Area Council, which represents 275 of the largest employers in the nine county San Francisco, Oakland and Silicon Valley Bay Area. Almost all business sectors are represented in our Council, and as is the case throughout America, there is tremendous pressure on our region's as well as our State's economy. Our unemployment rate exceeds 12 percent and our State government is facing a daunting fiscal crisis, which you are aware of.

I want to thank Congresswoman Jackie Speier for her leadership in introducing this important legislation. You have already heard about the environmental conditions in the bay and the estuary that necessitate Federal action. What I would like to do is focus on the economic side of the equation because in our region the environment and the economy are inextricably interlinked.

San Francisco Bay is very much the centerpiece of our region's environment, but it is also at the center of our region's economic vitality. We should not kid ourselves. The defining feature of our region is now under serious threat. The bay itself is under assault by sea level rise, serious runoff pollution, changes to water salinity, invasive species and trash.

We need Federal help to address these issues, and we submit that it is in the national interest to do so because the San Francisco Bay Area, note that we have named our region after the bay itself, is one of the most important and successful economic hubs in this increasingly knowledge-driven world.

Here are just a few facts about the Bay Area's economy and why its continued vibrancy is so important to our Nation. If it were a country, our region would place as the 25th largest economy worldwide. We have a huge pool of public and private research institu-

tions that are among the best in the world. There are more Fortune 500 companies, 27 of them, than any other region in America other than New York.

We are also an important global center, with the fourth highest amount of Forbes Global 1,000 companies, behind only Tokyo, London and New York. Thirty-six percent of all the venture capital invested in America is invested in the Bay Area, which underscores why and how innovations, ideas and startups are so prevalent there.

We are the birthplace of the biotech industry and more life science companies are headquartered in the region than any other place on Earth.

We strongly believe that the ability to maintain these knowledge industries ties directly to the quality of life afforded by the bay.

In addition to the knowledge-based industry that the Bay Area is so well known for, the region's economy is actually quite diverse, and a good portion of it is directly dependent upon a healthy San Francisco Bay. The Port of Oakland by itself is the fifth largest container shipping port in the United States and a major point of exports for agricultural products grown in the central valley and other parts of the Country. Through that port, plus eight smaller ports and three international airports, the Bay Area handles nearly 30 percent of West Coast trade.

Tourism generates over \$7 billion each year and is one of the largest industries in the region. Whether it is Fisherman's Wharf or the Golden Gate Bridge or Fleet Week or one of the many sailing regattas that take place throughout the year, the Bay Area is the destination or the backdrop for the activity.

Commercial fishing, which is completely dependent on a health bay and estuary, remains an important and relied-upon regional industry. And Madam Chair mentioned the problems that we have been facing with our salmon these last few years.

Our bay and therefore our region is under threat, as you have heard today. And the point I would like to leave you with is that it is not only in our Country's environmental interest, but also our economic interest to take action and begin turning back the chain of events which have led to the current situation.

We recognize that the Federal Government cannot and should not be responsible for all the costs associated with what must be done. As has been the case with other environmental remediation and restoration projects in other key parts of the Country, like Chesapeake Bay, the Florida Everglades, the Great Lakes, Congresswoman Speier's legislation requires that there be local and State matching efforts to draw down Federal funds appropriated for the purpose.

We further believe that there will be many instances where private investments, coordinated with public jurisdictions, can contribute mightily to restoration efforts. Such private investments can deliver valuable new housing and other public benefits, while producing other significant environmental results like reducing greenhouse gas emissions and vehicle miles traveled. These are all detailed in my written statement which I have provided for the record.

Today, I would like to specifically urge you to help complete a vulnerability assessment of climate change on the estuary, update floodplain maps, strengthen response to oil spills in the estuary, make good use of public-private partnership opportunities, and to make a 10-year commitment to fund priority objectives for the bay estuary.

Thank you again. I appreciate the opportunity to be here.

Mrs. NAPOLITANO. Thank you, sir, for your testimony.

We now turn to Ms. Judy Kelly.

Ms. KELLY. Madam Chairwoman, Members of the Subcommittee, good afternoon.

It is really my honor to talk to you today about the largest estuary on the West Coast, known throughout the world for its breathtaking beauty, the iconic bridges that span its water, and the great cities that surround its shore.

The estuary, despite 150 years of alteration, is still a key engine that provides enormous economic and environmental benefits to the people of the region, the State and the Nation.

Cargo ships from all across the Pacific Rim depend on the ports and infrastructure of the estuary. The San Francisco Bay Area, as has been mentioned, is the United States' fourth largest exporting region, accounting for 36 percent of California's exports alone.

In 2008, just the City of San Francisco hosted 15 million visitors, generating some \$7 billion into the Bay Area economy and many more billions of dollars to our Nation's wealth. The Bay Area estuary helped power this economic engine and the health of the estuary is vital to keeping it running.

While over 7.5 million people call the Bay Area home, the San Francisco estuary does not belong to the citizens of California alone. In 1987, Congress recognized our estuary as one of being nationally significant. And hundreds of citizens, agency staff, business representatives, and non-profits came together to do the hard work of crafting a master plan for restoring the health of the estuary.

The partnership between the Federal Government, the State and the region on estuary issues has been a very strong one. Over the past 10 years, in spite of budget problems, California voters approved a series of bond issues that support both water supply and ecosystem restoration efforts.

In fact, just last year, as Mr. Gioia mentioned, the legislature created the San Francisco Bay Restoration Authority and tasked the region with exploring local funding options for restoring some of those 36,000 acres of wetlands we currently have in public ownership.

Also, as a major landowner and stakeholder in the region, the Federal Government also has a vested interest in the estuary. The Federal Government owns and maintains seven national wildlife refuges around the bay. Over 25,000 acres of Federal military bases on the shores of the bay and the estuary have been decommissioned over the past 30 years. In many cases, those bases left pollutants that have compromised water quality and contaminated wildlife habitat.

The Estuary Partnership's comprehensive plan completed in 1993 and revised again in 2007, addresses all aspects of estuary restoration, from reducing pollution to conserving wildlife habitat

to preserving the productivity of the estuary's commercial enterprises. The plan needs the active support of the Federal Government and Congress, working in cooperation with the State, localities, business and citizen groups to make it happen.

Clean water and healthy habitats remain stubborn problems due to several issues, including the dispersal of toxic substances within our watersheds and funding limitations to address all the issues. Currently, the region has over 88 water bodies identified by USEPA as being impaired.

Expanded Federal funding alone, with continued State and Federal support, matched by new local funds which would come through the Bay Restoration Authority, will help enable us to work on critical restoration efforts throughout the estuary system and result in multiple ecological and economic benefits.

New challenges and opportunities create an urgency to act. Restoring our bay wetlands is one of those key opportunities. As I mentioned, nearly 36,000 acres of bay lands are currently in public ownership waiting for funding to proceed through the restoration phase. These lands play a critical role in protecting our bayside communities.

The bay has already risen eight inches over the past 90 years, and we expect to see a rise of an additional 16 inches by mid-century. The value of Bay Area shoreline development, buildings, roads, airports, parks, at risk is estimated at \$62 billion.

Tidal wetlands are the region's first line of defense against a rising sea. These marshes form natural levees and act as buffers that protect developed areas from flooding at far less cost than building engineered barriers.

Our sense of urgency has led the Estuary Partnership to conduct a strategic planning process completed late last year, which identifies key actions on which to focus. Increased Federal assistance will not only provide benefits to fish and wildlife, but will also provide critically important services to the human community. It will help preserve a national icon and a vital economic and environmental resource beloved by the Nation and the world.

I want to thank you again, Madam Chairwoman. Thanks also to Chairmen Oberstar and Johnson and Ranking Members Mica and Mr. Boozman for their dedication in restoring this Country's great water bodies. I would be glad to answer any questions or assist you and the Committee in any way.

Mrs. NAPOLITANO. Thank you for your testimony, Ms. Kelly.

And we now will hear from Mr. Paul Lumley.

Mr. LUMLEY. Good afternoon, Madam Chairwoman and thank you to Members of the Committee for the invitation here to testify.

I am Paul Lumley. I am the Executive Director of the Columbia River Inter-Tribal Fish Commission and a citizen of the Yakima Nation.

The Columbia Inter-Tribal Fish Commission was formed in 1977 to ensure a unified voice in the overall management of the fishery resource. Our member tribes are the Confederated Tribes and Bands of the Yakama Nation, the Confederated Tribes and Bands of the Umatilla Indian Reservation, Confederated Tribes and Bands of the Warm Springs Reservation of Oregon, and the Nez Perce Tribe.

Each of our four tribes have similar treaty language. In those four treaties, though, combined we ceded 40 million acres of land to the Federal Government in exchange for certain rights. In each of those treaties, we reserve the right to fish and hunt in all usual and accustomed fishing places.

Those rights were not granted to the four tribes. Those rights were primarily to preserve and protect our first food, which are traditional to our cultural way of life: [word in native language], which is water; salmon, the [word in native language]; and elk, roots and berries in that order. And that is the way that the Creator has delivered those resources to us and we are entrusted to the protection of those resources for seven generations. That is why the Columbia River Inter-Tribal Fish Commission exists.

I can't stress enough the importance, though, that when we signed our treaties in 1855, implicit in those treaties was the understanding that those fish would be healthy and edible to eat. The land that we fish on is not necessarily limited to our reservation boundaries. The right to fish and hunt in all usual and accustomed fishing places is a place-based right and we cannot move our fishery around to find other fish that are healthier for us to eat.

I want to bring your attention to some comments regarding the state of salmon restoration in the Columbia River Basin. First, I want to point out that the Columbia River, or Nch'i-Wana, which means Big River, once produced more salmon than any other river basin in the world. Now, it produces more electricity.

Obviously, we have had more problems in the Columbia River Basin than we ever expected when we signed our treaties in 1855. We have had a major crisis occur in the mid-1990s when several species were listed under the Endangered Species Act. There is no doubt that our recovery efforts are complicated. We have found ways to achieve some level of success with increasing populations. However, no salmon species have been de-listed to this point. In fact, just a month or so ago, we have had another listing of smelt in the Lower Columbia River.

Another species of extreme concern to the tribes is Pacific Lamprey, which are also declining at an alarming rate. So while we have made progress in some areas, we haven't made enough progress to get to full recovery.

After the listings in the 1990s, the Columbia River Inter-Tribal Fish Commission sponsored a report called Wy-Kan-Ush-Mi Wa-Kish-Wit, which stands for Spirit of the Salmon. That is our gravel-to-gravel management plan to restore salmon in the Columbia River Basin.

There is no doubt that there is a major Federal investment in the Columbia River Basin to restore salmon. However, one very major missing link to the puzzle is a coordinated basin-wide approach to addressing toxics in the Columbia River.

In 1991, we signed a cooperative agreement with the Environmental Protection Agency for a two-phased approach to address toxics in the Columbia River. The first phase was to complete this study, which is to evaluate the consumption rate of salmon that we are eating, and we found out that our members were eating approximately nine times more fish than the general public.

The second phase was to look at the contaminants that were in the fish tissue. And so this was phase two, which was completed in 2002. What we found out was that there are significant concerns with the criteria to protect our people. The criteria that is currently established protects the general public, but not our tribes. These findings are referenced in the proposed legislation.

I would like to turn my attention to the Columbia River Restoration Act. First of all, I want to applaud the efforts for this legislation. It is sorely needed in the Columbia River Basin. Nch'i-Wana is a major river. It is a huge river worldwide. It deserves to be protected.

There has been a significant lack of attention to toxics in the Columbia River Basin, and we stand here ready to assist you and the Committee any way we can to improve this legislation to address comments that we heard earlier today from the Congressional panel.

We do have three recommendations on the bill. The first is to provide that the EPA Regional Administrator be in charge, be the primary leader in the bill. We have concerns about the allocation of funds and programmatic authority. We want to have a discussion about increasing financial resources in up-river locations. And third, we think that a single Columbia River Basin strategic planning document is needed, and we suggest that EPA's Columbia River Basin Toxics Reduction Plan should be that plan. We fully support LCREP in their initiatives. They have a wonderful management plan that should be nested there as well.

I would like to turn my comments, if I could, for a little bit longer to address some concerns that were raised by the Congressional panel. Is that all right?

Mrs. NAPOLITANO. I am sorry?

Mr. LUMLEY. Some concerns that were raised by the Congressional panel? I know I am out of time, but if I could just address their concerns real quickly?

Mrs. NAPOLITANO. Certainly.

Mr. LUMLEY. Thank you.

We share the concerns that contaminants in the estuary have long been overlooked. However, we cannot ignore the fact that a substantial amount of contaminants in the estuary originate from sources throughout the Columbia River Basin. We also do not want this bill to compromise collaborative efforts or legal positions. The bill as drafted did not intend to do that.

We are prepared to work with you to improve the language. The intent of the bill is to add value to collaboration, reduce contamination, and contribute to salmon restoration.

I thank you for the opportunity to testify today. Thank you.

Mrs. NAPOLITANO. Thank you for being brief, and thank you for that testimony.

Ms. Marriott?

Ms. MARRIOTT. Thank you, Madam Chair, Members of the Committee. My name is Debrah Marriott. I am Executive Director of the Estuary Partnership. I would like to thank you and Congressman Blumenauer for your leadership in protecting our estuaries and great waters.

This bill does address the Columbia Basin as a large aquatic ecosystem, a status it shares with the Chesapeake Bay, Great Lakes, Everglades and the Gulf of Mexico. It unites the Columbia Basin as a whole, including the NEP, the National Estuary Program in the lower 146 miles. The Columbia NEP and the large aquatic ecosystem are not the same geography. The NEP is nested within the larger basin.

The Columbia, as you have heard, is the fourth largest river in North America; 8 million people, 2,000 species live here and depend on it. It provides 75 percent of the power for the Northwest. Sales from farm and ranch exceed \$10 billion a year and it carries \$13 billion worth of cargo a year.

You have heard today about its degradation. Ninety-two priority pollutants have been identified. The entire main stem is impaired. Thirteen species of salmonid are listed as threatened or endangered. Legacy toxics are still present in fish, sediment and water quality. New contaminants in flame retardants and pharmaceuticals are causing male fish to morph to females within their life cycle, and other contaminants have impaired the reproduction of male river otters.

Contaminants that start far up in the basin end up deposited in lower river ports, putting our port operations at risk. The loss of fish has decimated our commercial fishing industry, dropping from \$41 million in personal income in 1980 to \$4 million by 1998. The fish consumption rates of tribal people are high.

We have conducted many one-time studies that give a very clear snapshot of the problems. The planning has been done. We have six Federal plans, and our management plan, and the State recovery plans that all call for restoring habitat and reducing toxics.

The infrastructure is in place. The Estuary Partnership has 15 years working in the lower river. We have done a lot with restoration; EPA has four years of working with the Toxic Reduction Working Group in the upper basin.

In the lower river, EPA has invested approximately \$4 million in the Estuary Partnership since 2000. We have leveraged that to bring another \$20 million, and with that we have restored 16,000 acres of habitat, mostly targeted for salmonid fish. It restores less than half of what we have lost in settlement.

There is no sustained monitoring on the main stem Columbia and no concerted toxic reduction effort. As we have learned more about the problems, we have actually been investing less. We know what we need to do. All of these studies tell us that we need to collect and analyze a full suite of contaminants at the same locations at regular intervals over time. We need to expand toxic reduction collection sites for farmers, mercury collection on tribal lands, and pharmaceuticals to keep them out of the water and out of the hands of teens.

The States have increased their investments in the water bodies within their States, but the Columbia mainstem lags behind and the estuary lags even further behind. Of the \$877 million invested by Bonneville Power in five years from 2004 to 2009, less than 7 percent was in the lower river. This needs to be reversed.

Every threatened and endangered salmonid in the entire basin uses the estuary at least twice in their life cycle. They are contami-

nated and their habitat is contaminated. Fifteen years ago, we identified over two dozen toxic hot spots in the lower river. We need to clean them up and we need Federal assistance to help us do that.

We would suggest adding language to codify EPA's current stakeholder process using an NEP model in the whole basin to ensure a community-based process. It has been tested and it is trusted in the lower river. It ensures all interests are considered. It focuses on results and it is completely voluntary.

This bill recognizes the basin as one geography. The Estuary Partnership is part of EPA's basin efforts. Keeping those linked for consistency is critical. Implementation can happen effectively through existing entities to keep momentum and recognize local needs. The bill sets a unified approach and it begins to reverse the lack of investment in the estuary, at least in the initial years.

Funds targeted to us go out to local partners. We set the regional strategic prioritization with them and provide coordination. The 75 percent cost share is essential to local partners. This secures the region. It keeps ports operational. Every \$2.5 million in restoration creates 55 jobs, from construction laborers for bridge repairs to foresters. It aids farmers and it opens markets for local supplies.

It is a national priority. The Columbia is an estuary of national significance and the entire basin is a great water body, a large aquatic ecosystem. Yet unlike the Great Lakes or Chesapeake, we receive no funding pursuant to it. These problems have been here for a while. They come from many different activities. They can't be corrected in one or two years, and the current investment does not match the magnitude of the problem.

This holds us accountable to our kids and it lets us take action now.

Thank you very much for the opportunity to speak with you.

Mrs. NAPOLITANO. Thank you for your testimony, Ms. Marriott.

And now, Senator Dingfelder. Thank you very much.

Ms. DINGFELDER. Thank you. Good afternoon, Madam Chair and Members of the Committee. My name is Jackie Dingfelder. I am a member of the Oregon State Senate, and I chair the Senate Environment and Natural Resources Committee back in my State.

I represent Senate District 23, which includes portions of northeast and southeast Portland and is adjacent to the Columbia River.

Thank you for the opportunity to speak on behalf of the Columbia River Restoration Act of 2010.

The State of Oregon has made significant investments even in these difficult economic times to improve watershed health within our State. Most notably during the 2007 legislative session, the legislature increased funding to our Oregon Department of Environmental Quality known as DEQ to institute a statewide Toxics Reduction Program.

As part of this program, DEQ is working in 18 basins throughout the State to monitor for toxic pollutants in water fish and sediment, and the agency is assessing current use of legacy pesticides, industrial chemicals, chemical byproducts, pharmaceuticals and personal care products.

In 2008, Oregon targeted the Willamette River basin for toxics monitoring and reductions, and the State is currently looking at

about 20 sites that are sampled twice a year. It costs the State about \$1 million a year, so we are making those investments.

Some of the findings so far include high levels of herbicides, which was the most frequently detected class of pesticides in surface water. Pharmaceuticals were detected at low concentrations; heavy metals such as copper, lead, arsenic, silver and zinc; levels of polychlorinated biphenyls, and these were measured in composites of fish fileted offsite; and also combined mixture of dioxins and purons in fish. And last but not least, we found pesticides that were detected at above the EPA screening levels. And this is of great concern to us.

Mercury concentrations in fish tissue has significantly increased from 2002 to 2008 when it was found at concentrations that exceeded screening levels established by the EPA for subsistence fishers and often exceeded the threshold value used by the Oregon Department of Human Services to issue fish consumption advisories.

Although these are findings from the Willamette River, it eventually flows into the Columbia River. Thus, we are concerned about contaminants that are also entering the Columbia River system.

The State of Washington shares many of Oregon's concerns regarding the Columbia River and in fact Washington is making its own investments in improved water quality. Yet, the State simply cannot provide all the needed resources that are required to protect this most important river system. The Columbia River is, after all, as I am sure you are well aware, a shared water body, a Federal navigable waterway, a major U.S. transportation port, and a national treasure.

Federal investments in the lower river and estuary are considerably less than what has been made in the remainder of the basin. Currently, the Bonneville Power Administration is a major funder through the Biological Opinion, and their investments have been focused for decades above the Bonneville Dam. In fact, EPA began investing in lower river only as recently as 2003, and has targeted less than 7 percent of its entire funding source to that area.

The unfortunate reality is that the Lower Columbia River and estuary are significantly impaired. And this impairment is due to contaminants entering the river below Bonneville, notably from the Willamette River and from runoff from the 31 towns in the lower river, but also from contaminants that start far up in the basin and ended up deposited in lower river sites.

As you have already heard, every ESA listed threatened and endangered salmonid migrates through the estuary at least twice in their life cycle, and I am also sure that you are very aware of the economic challenges facing States. Oregon has one of the highest unemployment rates in the Nation. Washington is not far behind.

This bill will provide a major investment in reducing toxics and cleaning up the Lower Columbia River, but this bill will also be a central component to our economic recovery. As we work to improve the Columbia, we can provide immediate jobs through work as monitoring, analysis and other cleanup activities. Plus, this bill secures our region's long-term economic advantages; cleans up the sediment and water quality to bring back fish and keep ports operational; and provides cleanup assistance to farmers to keep them producing and shipping products to international markets.

We need to act now to improve the Lower Columbia River and estuary. Our region has developed many plans over the past 10 years and they all say the same thing: restore habitat and reduce toxics. I am confident that the Columbia River Restoration Act of 2010 will greatly assist us in reaching this goal, and I urge support of this bill.

Thank you for the opportunity to testify here today and I would be happy to answer any questions.

Mrs. NAPOLITANO. Thank you, Senator. I am very interested in what your State legislature has done in the past to go after the potentially responsible parties for pollution, and also whether or not the potentially responsible parties are part of the solution, as well as provide training for the agricultural folks in terms of use of pesticides and fertilizers, and then on to educating the general public as to what they can do to not flush stuff down the toilet or to be able to be more careful about things that are polluting our waters.

Are you embarking on that? Are you including the business community? Are you doing outreach to the general public to begin to tell them how vital your river is to the health and welfare and your economic well being?

Ms. DINGFELDER. Thank you, Madam Chair and Members of the Committee. Again, State Senator Jackie Dingfelder and thank you for that question.

The State of Oregon has made great investments in watershed health in both protecting and upgrading our watersheds.

Mrs. NAPOLITANO. I am not talking about the investments. I am talking about the outreach.

Ms. DINGFELDER. As part of those investments, we have funded grassroots Watershed Councils. We have over 90 Watershed Councils in the State of Oregon. I will say that Washington also does a lot of grassroots work.

And one of the main themes that these grassroots organizations are doing is outreach in education with the business community, with the farming community, with the forestry industry, basically all the stakeholders that operate within these watersheds.

I myself served as a Watershed Coordinator for several years prior to joining the State Senate, so I know first-hand about the work that is being done.

Certainly, more can be done. Always, prevention is the best investment because it is a lot less expensive than cleaning up afterwards and restoring our rivers and stream sites.

So we have 15 percent of our lottery funds in the State are dedicated towards this purpose currently.

Mrs. NAPOLITANO. But are you going after the potential polluters is my question.

Ms. DINGFELDER. Madam Chair and Committee Members, absolutely. We have a very aggressive program through our Department of Environmental Quality. We have a voluntary cleanup program and of course work very closely with USEPA in our Superfund program. We have a very aggressive Portland Harbor cleanup as well.

Mrs. NAPOLITANO. And I would ask the same question of the Supervisor and of any of the others who care to answer that, the cleanup part of the solution would be the potential responsible par-

ties for that pollution. And sometimes they disappear because it is years down the road. However, there still has to be made an effort to be able to have that funding so EPA can do a better job.

Anybody?

Mr. GIOIA. Just a note. There is always an aggressive goal of going after those who are the responsible parties. As you know, sometimes Federal law dictates how far local agencies can go. Sometimes it is State law.

In the case of the oil spill that occurred in San Francisco Bay within the last couple of years, there is a lot of effort by a number of agencies to go after responsible parties. So that is always part of it.

And in California, when the Regional Boards find polluters, that money gets used as well for restoration or public education or outreach of creek cleanups. So I know that one funding source we use for restoration are the fines that are levied against those who actually do the polluting.

Mrs. NAPOLITANO. Supervisor Gioia, you mentioned in your testimony the Bay Area's Regional Water Quality Control Board recently issued a regional stormwater permit for Bay Area counties. Could you elaborate some more on this permit and explain what the benefits of this approach are? And is there a way to incorporate the approach into the San Francisco Bay Area Estuary Program?

Mr. GIOIA. Yes, thank you for the question.

I think we have been very progressive in the Bay Area about looking at how this development occurs in ways that have the least impact on the bay. And the Regional Water Quality Control Board came up with a permit which mandates that a number of actions be taken by local cities and counties when development gets approved.

The positive part of that is the steps that must be taken will improve runoff and reduce pollution into the bay. The challenge is that it costs a significant amount of money to implement that rule. And so that burden is falling on local agencies, and any help from a Federal investment will allow all of us to achieve that goal quicker.

For example, requirements with regard to impervious surfaces, that has been incorporated so that we don't have as much runoff into the bay. But again, because the Bay Area is also looking at having more infill development, what we have is a situation where the cost of these new regulations, which we all want to see, we are all looking at the best way to raise funds to implement those so that good development happens.

And probably the most promising thing that has happened in the Bay Area there is the establishment of the San Francisco Bay Restoration Authority. A couple of years ago, Save San Francisco Bay Association did a study and basically recommended and sponsored this legislation that sets up one regional government agency in the Bay Area to work on wetland restoration and most importantly to raise local dollars to do that.

I serve as Vice Chair of that and we are currently looking at polling to put a measure on the ballot in the Bay Area where local residents will participate in the funding of wetland restoration and any Federal investment will greatly, greatly increase the likelihood of

local voters putting up local dollars, so the leverage factor is really important.

Mrs. NAPOLITANO. But do you have the ability to enforce?

Mr. GIOIA. We do. Yes. And the great work has already been done. The Estuary Partnerships plan. So we have done all the planning. We have done all the work. We just need some additional investment. And we are fully willing to have our local communities help foot the bill. We are not shying away from that. But the Federal investment will just be the third leg to the stool: Federal, State and local investment.

Mrs. NAPOLITANO. Many years ago, I remember going into San Francisco and seeing on the sidewalks in some areas the little fish stencil right on the drainage areas. I thought what a great idea, because people don't realize that that goes into the ocean and the rivers.

Mr. GIOIA. Right. And that has been one of the stormwater management policies, to educate the public to understand that what goes on the roadways into the storm drain system ends up in the bay.

Mrs. NAPOLITANO. Thank you.

Mr. Boozman?

Mr. BOOZMAN. Thank you, Madam Chair.

Mr. Gioia, in your testimony, you said it takes a two-thirds vote from property owners in the Bay Area to increase fees or rates in order to provide improvements to stormwater. I guess we sit here week after week listening to testimony from all over the Country with areas like this. And I am from Arkansas, and we are blessed. We have a number of not estuaries, but we have a number of areas that are in need of this or that.

And I guess our concern is that it is so difficult for you all to participate. It almost seems like we want Federal funding.

Mr. GIOIA. No, that is not what we are saying. I think first of all, as you know in many States, it is elected officials at the State and local level that can actually raise the fees to run stormwater programs. We are unique in California. It is just harder to raise those funds.

We are not saying that we don't want to do that and the public wouldn't support that. We are just saying it takes a little more effort. And in fact, the effort to set up the Restoration Authority is a perfect example of where our local voters want to step forward and fund restoration activities themselves.

It is just that there is a greater challenge, and what we are saying is we would be able to raise even more local dollars with the leverage of Federal investments. Because in many States, you don't need to go to the voters. You can get the leverage by having an elected official vote to increase fees, and then attract Federal dollars.

We are just saying we have to show the public. It is a little higher threshold and we are prepared to do it, but we want to partner with the Federal agencies.

Mr. BOOZMAN. Of course, what is going to happen eventually, the EPA is going to make you do it.

Mr. GIOIA. On stormwater? You are talking now about the stormwater control issues? We already have requirements now

with the regional permit to implement a higher standard. And local agencies are paying for it currently.

Mr. BOOZMAN. I am sorry. I don't mean to interrupt.

Mr. GIOIA. Yes, sure.

Mr. BOOZMAN. Again, I understand what you are saying. Again, in Arkansas the City Council can vote and raise the other. Do you have any alternative financing schemes that you have looked at in lieu of maybe not doing it in the conventional way?

Mr. GIOIA. There has been foundations and private businesses. And foundations have stepped forward to partially fund restoration projects around San Francisco Bay. They have also said we are willing to leverage our dollars with State, local and Federal dollars. We have issued bonds.

So I think we are probably the only metropolitan area in the Country that has established this new mechanism to place one measure on the ballot in all nine counties among all 7.5 million residents to be able to vote on this issue. So again, we are willing to step forward. That is new as well, but yes, we are being as creative as we can.

Mr. BOOZMAN. Okay. I think Ms. Kelly testified that there were \$7 billion worth of economic benefits. Is that correct?

Ms. KELLY. As I recall that part of my testimony, I think I was referring to something specific relative to the visitors impact.

Mr. BOOZMAN. Yes, exactly.

Ms. KELLY. Just the visitors impact.

Mr. BOOZMAN. So I guess what I am saying is it is a tremendous resource that is generating a tremendous amount of money. And it is a challenge. I mean, we have to take care of it, but it is a tremendous revenue generator also for the area.

Mr. Lumley, changes in the operation of some of the dams in the Columbia River Basin has led to progress in salmon recovery. How has this affected some of the other activities in the basin? For instance, has this led to loss of hydropower generation? And if so, how to residents in the basin now get their power?

Mr. LUMLEY. I don't believe that there is a limitation on the amount of power that is being provided to the residents. There are alternative sources. I don't know if you have driven through the Columbia River in recent times.

Mr. BOOZMAN. No, if we could get on the stick and have a trip to check things out.

Mr. GIOIA. You have to come to San Francisco Bay as well.

Mr. BOOZMAN. I agree.

Mrs. NAPOLITANO. And put it to the Chair.

Mr. BOOZMAN. And there truly is no substitute for actually getting out and seeing the areas that you are talking about. I agree totally.

Mr. LUMLEY. And I would welcome a field hearing. I would be happy to do whatever I can to assist you in that endeavor.

If you drive through the Columbia River, you will see a series of dams and you will also see on the hilltops a series of wind turbines that produce wind power. So we have a plentiful source of renewable energy in the Pacific Northwest.

There were changes to the way the hydropower system was managed, and it was a result of the listings of salmon under the En-

dangered Species Act, but it hasn't provided any kind of dramatic downfall of the amount of electricity that is being provided to the public in the Northwest.

So we found ways to manage the Columbia River in a manner that is more protective of salmon, at the same time providing enough funds for a mitigation program to help keep the salmon from going extinct and to rebuild salmon runs.

Mr. BOOZMAN. Very good.

Final question. Ms. Marriott, 40 percent of the funds are to go to the Estuary Partnership in the bill to manage implementation of the plan. Can you tell us a little bit more what that means?

Ms. MARRIOTT. Madam Chair, Members of the Committee, I would be happy to. The bill as it is currently drafted would set 40 percent of the future appropriations to the lower river. That is in part because the lower river through the National Estuary Program is a little bit further ahead in knowing where we need to invest those funds than the upper basin effort that EPA has been working on in the past four years. We are a little bit more ready to go, essentially.

Where it would go, the first ask that we would make through an appropriations would request several million dollars to establish a network of monitoring at 26 sites for a full suite of contaminants. We would invest also with Oregon DEQ and Washington Department of Ecology in hosting take-back programs for farmers, pesticide take-back programs, pharmaceutical take-back programs.

We would do consumer education, Madam Chair, to help people understand how to dispose of these materials and then also talk about some of the impacts of our daily activities on stormwater runoff and some of those problems associated with that.

That is where we would make our initial investment with these resources.

Mr. BOOZMAN. So would Oregon DEQ, would they help decide that and EPA? Or would that just be the pretty much at your all's discretion?

Ms. MARRIOTT. Madam Chair, Members of the Committee, the Estuary Partnership management plan was developed by a large stakeholder group. Our governing body is a stakeholder group that is comprised of Federal, State, local and tribal officials, as well as other public and private interests.

We are accountable to EPA. That management plan is reviewed by them periodically to ensure that we are consistent with the Clean Water Act in helping them implement aspects of the Clean Water Act.

The monitoring program in particular has been developed by a subset of our management group, our Science Work Group, which is comprised of over 40 scientists from our region, again from the public and private sectors. They are the ones who have looked at the data, looked at where the problems are, and put together a monitoring strategy for us.

Mr. BOOZMAN. Okay.

Thank you, Madam Chair.

Mrs. NAPOLITANO. Thank you, Mr. Boozman.

I would like to then ask a couple of questions of Mr. Lumley, if you wouldn't mind.

In your testimony on page four, you write that water quality standards for toxics are traditionally based on consumption rates for non-Indians. Could you elaborate a little more on that and provide some kind of explanation of what you mean and what the public health implications are for the tribal members that you represent?

I know there are a lot of contaminants. Have there been any assessments to review the health and welfare of the tribes and how they have been able to determine that?

Mr. LUMLEY. Thank you for the question. Excellent question. Thank you.

The criteria are established by Federal and State standards. It is for the general public. But there are certain subsets anywhere in the public that tend to consume natural resources more than others. The Columbia River Basin tribes are not the only group of individuals out there who consume large amounts of salmon. There are other ethnic groups that also consume large amounts. However, the tribes consume more than any other group that we are aware of, between 6 percent and 11 times more.

So the criteria that was established for the general public is not sufficient for protection of the tribes. The Umatilla Tribe in particular has been working with Oregon Department of Environmental Quality to change the State standards, and it looks like that will be increased by about 10 times, and that will be more protective for the tribal population.

Salmon are a healthy source of omega 3 fatty acids, and I do not recommend to our members to stop eating fish. There might be different ways to consume them, but the Columbia Inter-Tribal Fish Commission is not a public health agency and I would defer any specific comments on public health to the tribes to get back to you through the process of having an open record on this hearing.

But there are concerns about certain populations in specific areas where there is a high consumption in areas that are known to have high contaminants, and that is a public health concern for some of our tribes.

Mrs. NAPOLITANO. Has the BIA or any of the tribal entities had any reviews of the health effects that the contaminants might have on the tribes, especially the ones that consume more salmon than others?

Mr. LUMLEY. I am not aware of any comprehensive study that looks at the salmon as a cause for, say, higher cancer rates. Perhaps we should be conducting more studies like that, but you have to look at the entire lifestyle and food that is consumed by tribes. You have to separate out salmon, which should be a very difficult study.

There was talk about a phase three approach with the Environmental Protection Agency, but there didn't appear to be any funding to take it to that level.

Mrs. NAPOLITANO. And you also mentioned in your statement it is beginning to affect the smelt.

Mr. LUMLEY. Contamination, not necessarily. Well, it may or may not be affecting smelt. My point, though, is that even though we are making progress for recovering salmon populations, our work isn't done yet for protecting all fishes in the Columbia River

Basin. In fact, some are being still listed. The smelt is a population of fish that have just recently been listed by the Endangered Species Act. I fear that the Pacific lamprey, a traditional food of the tribes, might be listed next. So there is still quite a bit of work to do to recover fish in general.

Mrs. NAPOLITANO. My mind is slipping. The Bay Delta issue with the water pump up north of Sacramento has involved the endangered species of Delta smelt that has been diminishing rapidly and furiously. At first, it was thought that it was only the pumping that was killing the fish because they loved the cold water near the pump.

It is now more evident that there are many other effects that are causing the decline of the Delta smelt. Part of it is the toxins, whether it is the different things that we have already mentioned; also, the warming of the waters; as well as the invasive species that have been introduced into the rivers.

So many of those things have been found already in our area. You might want to maybe compare notes to see what might be the cause of some of the effects of the decline of the smelt in your area.

But it is a problem and we need to get to the bottom of it and begin to look for whether it is the contaminants, the pesticides and the fertilizers, or the other toxins that are discharged into the river; whether it is untreated sewage, waste and many other things that we look at.

So Ms. Kelly, in earlier testimony, EPA's Deputy Assistant Administrator stated that Federal efforts to improve water quality in the San Francisco Bay are ongoing, but serious environmental challenges still remain. And from your organization's perspective, why are ongoing State and Federal efforts not currently sufficient to address these impairments?

Ms. KELLY. Thank you for the question, Madam Chairwoman.

There are a couple of aspects to the question I just want to touch upon. One of the things that I think it is healthy for us to remember, in the program we sometimes feel like we are Sisyphus rolling the stone up the hill. But we are in an estuary that has had incredibly rapid development for the last 20 years.

And the fact that we actually have had improvements in a lot of areas, and yet had millions of more people within the watershed develop homes there and businesses there, and roads and networks, is actually I think something of a testament to how well we are actually doing in the face of some of these assaults on the environment. So that was one point I just wanted to stress.

I think your question is more towards what are the things that we would do continuing now with new Federal funds. We mentioned, as the panel has mentioned, a couple of opportunities, especially relative to the 36,000 acres that are currently being held in public ownership are just waiting. They are permitted. They are waiting for funding to actually be restored, which will help with water quality. It will help in our efforts to protect our communities against a rising tide. And of course, it does wonderful things for the fish and critters that live in those environments, to restore those habitats. So that is a priority for us.

We also have areas around the bay and the watershed where we know that there are toxic hot spots. I was mentioning earlier to

someone there is an entire watershed, the Guadalupe Watershed in the southern part of San Francisco Bay had a historic mercury mine in the upper watershed of that bay. In fact, it is written in a wonderful book by Wallace Stegner, *Angle of Repose*.

The beginning of that book actually takes place in this mercury mine, which is one of the largest we had in the Nation. During the gold mining, they needed mercury to extract the gold and it is part of the area that they got the mercury from.

So we have this incredible legacy pollutant system, if you will, around the bay. And we know where some of those toxic hot spots are. We would like to get those sediments out of our rivers that are continuing to contribute sources even as we speak into the bay proper.

So we have an opportunity to take action along those lines. And as Mr. Gioia mentioned, we do have this new regional permit. We are working. The Partnership is working with 101 bay cities on looking for ways to reduce the trash impact. In fact, we have a whole process right now and a project working with the bay cities to put trash capture devices around many of the cities to try to address that.

So we are working in a number of fronts.

Mrs. NAPOLITANO. Thank you very much.

And now for last questions, and thank you for bearing with me.

Ms. Marriott, you mention in your testimony that the Columbia River watershed lies within the largest urban area in the State of Oregon, and the second largest urban area in the State of Washington.

What is the Lower Columbia River Estuary Partnership currently doing to address the impacts of polluted stormwater runoff from these urbanized areas? And how do you envision a more robust program will aid in the effort to address stormwater runoff?

Ms. MARRIOTT. Madam Chair and Members of the Committee, thank you very much.

One of our partners is the City of Portland, and another is Clark County and Vancouver on the Washington side of the river. We are working with them to I guess celebrate is a word we like to use, celebrate the development that is occurring that is what we call water quality friendly, where they are retaining stormwater onsite, preventing runoff, eliminating runoff of contaminated water into the streams that feed into the Columbia and the Columbia main stem.

We do a lot of what we call peer to peer workshops so we will meet with developers and have developers that are aware of these and using these techniques, talk to their colleagues who aren't using them, to share how you do it, how it is cost-effective, et cetera.

The City of Portland is actually known nationally for its work in sustainability and green infrastructure, with eco-roofs and rain collection sites. Green Streets is a huge program as well.

So we are trying to take those lessons and share them through our entire study area, both electronically using the Web to do that, as well as in our workshops throughout our city area.

Mrs. NAPOLITANO. Thank you so very much for answering that last question because to me the important question is how do we partner, what do we do?

But to all the witnesses and to everybody here who have been so patient, thank you for your testimony. There will be an open period, I believe it is 10 business days, for any additional testimony and anybody who is of the Committee, of the panel, or of the general public who wishes to add to this hearing can submit it in writing to this Committee within 10 business working days.

So with that, thank you so very much everybody, and this hearing is now concluded.

[Whereupon, at 5:08 p.m., the Subcommittee was adjourned.]

**OPENING STATEMENT OF
THE HONORABLE RUSS CARNAHAN (MO-03)
HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
SUBCOMMITTEE ON WATER RESOURCES AND ENVIRONMENT**

Hearing on

Protecting and Restoring America's Great Waters, Part II: The Columbia River and San Francisco Bay

April 28, 2010

Thank you, Chairwoman Johnson and Ranking Member Boozman for holding this hearing regarding efforts to protect and restore the Columbia River and the San Francisco Bay.

Both the Columbia River and the San Francisco Bay are central to their surrounding communities who take great pride in them. The economies, history, and culture of these regions depend on their rich array of resources. However, as is the case with many other estuaries across the country both the Columbia River and the San Francisco Bay face the challenge of over development and neglect.

An estuary is unique in that it is a mix of saline and fresh water creating an environment that supports a diverse habitat. They are many species of fish and shellfish that depend on the sheltered habitat provided by estuaries. Additionally, estuaries often serve as the breeding ground for many species of birds and other wildlife.

Both the Columbia River and the San Francisco Bay exemplify the interconnectedness of our watersheds. In each case pollutants discharged into tributaries and headwater streams make their way into the larger body of water below. As a result the health of these estuaries is threatened and defined by the tributaries that lie above.

It is critical to have a coordinated effort between federal, state, and local government stakeholders to restore and protect watersheds as large as the Columbia River and the San Francisco Bay. Both the Columbia River Partnership and the San Francisco Partnership have worked to develop a consensus driven comprehensive management plan, involving all levels of government, to address their regions pollution issues and what needs to be done going forward. Both these partnerships make clear a need for greater resources for the restoration and protection of the watersheds.

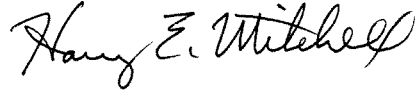
In closing, I want to thank our witnesses for joining us today, particularly my colleagues Congressman Blumenauer, Congressman Hastings, and Congresswoman Speier, and I look forward to your testimony.

A handwritten signature in black ink, appearing to read "Russ Carnahan". The signature is fluid and cursive, with the first name "Russ" and last name "Carnahan" clearly distinguishable.



Statement of Congresswoman Cathy McMorris Rodgers
H.R. 4625, the Columbia River Restoration Act of 2010
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
April 28, 2010

I would like to thank the Subcommittee on Water Resources and Environment and the full Committee on Transportation and Infrastructure for giving me the opportunity to comment on H.R. 4652, the Columbia River Restoration Act. The Columbia River plays a critical role in Eastern Washington – providing hydroelectric power and pumping water to the surrounding communities that depend on both. At the same time, the Columbia River finds itself as one of the most heavily regulated rivers in the country. I am concerned that H.R. 4652 unnecessarily adds even more regulations on the Columbia River. To be sure, we need to ensure that the Columbia River estuary is protected. But, I am concerned about the overreach of this bill, impacting areas of the Columbia River and its tributaries that are hundreds of miles above the estuary. In particular, I'm concerned about how this bill will impact current litigation on the Columbia River and the numerous Biological Opinions that are being developed and have been in place for years. As a member whose district is impacted by this bill, I would appreciate the opportunity to work with the Committee, affected Members and stakeholders before any additional movement on the bill is made.

A handwritten signature in black ink, reading "Harry E. Mitchell". The signature is written in a cursive style with a large, stylized "H" and "M".

Statement of Rep. Harry Mitchell
House Transportation and Infrastructure Committee
Subcommittee on Water Resources and Environment
4/28/10

--Thank you Madam Chairwoman.

--According to the National Oceanic and Atmospheric Administration and the National Research Council, estuaries provide habitat for 75 percent of the U.S. commercial fish catch and 80 to 90 percent of recreational fish catch.

--Today we will consider some of the challenges facing two of our major estuaries on the west coast – the Columbia River and the San Francisco Bay.

--I look forward to today's testimony.

-- At this time I yield back.

EARL BLUMENAUER
THIRD DISTRICT, OREGON
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Columbia River Restoration Act
Rep. Earl Blumenauer
Written Testimony
Water Resources Subcommittee
April 28, 2010

Chairwoman Johnson, Ranking Member Boozman, and members of the Committee, thank you for the opportunity to join you today to discuss legislation that will help restore the Columbia River, an important landmark for my state of Oregon and for the entire Pacific Northwest.

The Columbia River is the largest river in the Pacific Northwest and the fourth largest river in the country by volume. Its huge drainage basin includes 259,000 square miles and extends into 7 states and Canada. The basin includes all or part of 5 national parks, the Hells Canyon National Recreation Area, and the Columbia River Gorge National Scenic Area.

The Columbia River and its tributaries provide ecological and economic benefits to the entire country. It was traditionally the largest salmon producing river system in the world, and salmon are still an important part of the culture and livelihood for many people in the region. The Columbia River drainage basin also includes more than 6 million acres of irrigated agricultural land and its 14 hydroelectric dams, combined with additional dams on its tributaries, produce more power than any other North American River. There are approximately 8 million people who live in the Basin and depend on its resources.

The Environmental Protection Agency recognized the importance of the River to the nation when it named the Lower Columbia River Estuary an "Estuary of National Significance" in 1995 and the Columbia River Basin a "Large Aquatic Ecosystem" in 2006.

Unfortunately and for too long, we have treated this great river like a machine. As a result, much of the Columbia River is degraded. Habitat loss has been severe - in the last 100 years, for example, wetland habitat within the lower Columbia River corridor has decreased by as much as 75% from historic levels. Many of the once plentiful salmon runs are now listed as endangered or threatened under the Endangered Species Act. The Federal government, as well as state, local and Tribal governments, has spent millions of dollars on habitat restoration and environmental improvements at the dams.

In addition to habitat loss, the Columbia River is plagued by toxic contamination. Scientific analysis is showing significant levels of dioxins, PCB's, heavy metals, and other toxic chemicals. These "legacy pollutants," some of which were banned in the 1970's, are largely thought to have

been the result of human industrial activities occurring on or near the River over the last 150 years. Yet the problem persists today as a result of continued industrial uses, stormwater runoff and sewer overflows, which discharge water contaminated with new chemicals - including flame retardants such as PBDEs, pharmaceuticals, and personal care products. According to the EPA, the four main contaminants in the River include mercury, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), and polybrominated diphenyl ether (PBDE). Some of the additional pollutants that have been found at levels causing impairment include arsenic, dioxin, chlordane, metals, and bacteria.

Scientific research has indicated that these contaminants can impair the growth, health, and reproduction of salmon, eagles, and other animals that are an important part of our ecosystem. They present a threat not only to the fish and wildlife in the Basin, but the humans who depend on them. The EPA's recent Columbia River Basin Fish Contaminant Survey detected the presence of 92 priority pollutants, including PCBs, dioxins, furans, arsenic, DDE (a breakdown product of DDT), in fish that are consumed by humans - especially the Native American tribes in the region. A fish consumption survey by the Columbia River Intertribal Fish Commission showed that tribal members eat 6-11 times more fish than EPA's estimated national average.

While the Federal government has invested millions of dollars in the River on habitat restoration and environmental improvements at the dams, the level of investment is not at the scale necessary to implement sustained monitoring or make significant progress on reducing toxics. In many areas, there has been no monitoring at all. The EPA has indicated that it doesn't even have enough information in the majority of the Basin to know whether contaminant levels are increasing or decreasing.

This is why I, along with Committee member Brian Baird and other members of the Oregon and Washington delegation, have introduced the Columbia River Restoration Act. If enacted, this legislation would provide EPA and stakeholders in the region with the funding they need to develop a comprehensive strategy for identifying, understanding and reducing contaminant sources, expanding toxics reduction activities, and coordinating contaminant reduction efforts with habitat restoration in the region. Senator Merkley has introduced companion legislation in the Senate.

Much restoration work is already being done by the EPA, other Federal agencies, the Lower Columbia River Estuary Partnership, States, Tribal governments, and other stakeholders in the region. The EPA has established a Columbia River Program as part of the River's designation as a Large Aquatic Ecosystem, with a goal to "protect public health and the environment by reducing toxics in fish, water, and sediment of the Columbia River Basin and by increasing toxic reduction actions and implementing a collaborative monitoring and research strategy to understand toxic loads, emerging contaminants, and overall ecosystem health." However, existing efforts are at too small a scale and current funding levels are insufficient to meet these goals. Additional resources are necessary to support the comprehensive effort it will take to reduce impairments in the River.

The Columbia River Restoration Act establishes a Columbia River Program Team within the Oregon Operations Office for Region 10 of the EPA. This Team will assist, support and coordinate implementation of existing toxic reduction and habitat restoration efforts on the River. The bill envisions providing resources to successful structures that are already in place, including the Lower Columbia River Estuary Partnership, without duplicating efforts.

EPA's 2006-2011 Strategic Plan, which named the Columbia River Basin a Large Aquatic Ecosystem, included a goal "to protect, sustain, or restore the health of people, communities, and ecosystems using integrated and comprehensive approaches and partnerships." I think this legislation exemplifies that goal.

This legislation will ensure that all of the investments we're currently making in protecting endangered salmon on the River are being used efficiently. U.S. taxpayers and Northwest electricity ratepayers have already spent more than \$7 billion on salmon restoration efforts since the early 1980s, and are gearing up to spend even more when the Federal Columbia River Power System Biological Opinion goes into effect. Right now, however, we're spending money to restore habitat and improve survival over the dams just to swim in a toxic river.

Efforts to clean up the Columbia River and its tributaries are complicated by a Superfund site, important industries along the river, navigation traffic, an economically important fishery, and ESA listed species. But the EPA set up the Large Aquatic Ecosystem Program to make progress on exactly these types of complex water resource management challenges. With the resources provided by this legislation, along with the efforts already being undertaken in the region, I think we can restore the River and make it safer for fish, wildlife, and the humans that depend on them.

The Assistant Administrator for Water at EPA has stated that the success of the LAE programs rests in their collaborative nature. This legislation would help the federal government be a better partner to local communities by supporting model non-regulatory community-based programs that achieve real results. It would focus on on-the-ground activities driven by local communities with coordination, technical support and base funding coming from the Federal government.

By embracing this legislation, this Committee has an opportunity to contribute to the restoration and preservation of a nationally significant River. This is not just about conserving the environment: this a public health issue, an economic issue, and an environmental justice issue. I hope that the Committee will work with me to move this legislation through the process quickly, so that we can get resources on the ground in the Northwest and begin this important work as soon as possible.

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Rep. Earl Blumenauer
Addendum to Testimony on Protecting and Restoring America's Great Waters
Transportation and Infrastructure Committee
Subcommittee on Water Resources and the Environment
May 5, 2010

Thank you for the opportunity to provide the Committee with additional information on H.R. 4652, the "Columbia River Restoration Act," which was the focus of a hearing in the Water Resources Subcommittee on April 28, 2010. I sincerely appreciate the Committee's interest in this issue and your leadership on America's great waters over the years.

I am supplying this addendum to my testimony to address some of the questions about the legislation raised by my colleague Representative Doc Hastings during his testimony.

First, I would like to clarify that this legislation is an effort to build upon the success of existing collaborative, grassroots, and voluntary efforts within the region. Like the National Estuary Program, this legislation would be entirely voluntary. In no way does this bill provide the Environmental Protection Agency (EPA) with additional authority over the Lower, Middle, or Upper Basin. In fact, the bill simply provides funding to the EPA to support voluntary efforts to reduce toxic contamination and improve fish and wildlife habitat.

Under the legislation, EPA would have a coordinating role in terms of how this money would be spent, but its authority would not supersede any other Federal agency. To assume otherwise is a misreading of the legislation. If this needs to be clarified further by adding a "savings clause" to the legislation, I am open to doing so. But it is certainly not the intent of the bill to provide EPA with authority over the other Federal agencies doing work in the Columbia Basin.

Representative Hastings expressed particular concern about the Endangered Species Act. He and I, along with our colleagues who represent areas along the entire Columbia River, have been working for years with the Bonneville Power Administration, NOAA Fisheries, Army Corps of Engineers, Fish and Wildlife Service, and other Federal and local partners to ensure that the Columbia River can support both a productive hydropower system and a sustainable fishery. I strongly believe that this legislation would complement those efforts without complicating them. As I mentioned in my testimony on April 28th, Federal taxpayers and local electricity ratepayers have spent billions of dollars restoring habitat and improving survival over the dams of endangered salmon. However, right now, these efforts are being hampered because we are saving

those salmon to have them swim in a toxic river. This chemical exposure is harmful to the salmon and the habitat they need to survive, and puts more even pressure on developing hydropower system solutions; reducing river toxins would help to reduce that pressure.

Second, Representative Hastings expressed concerns that this legislation would overlap and interfere with existing federally funded watershed programs. This legislation would actually help *reduce* bureaucracy and overlapping efforts by having the federal agencies coordinate their efforts. Section 3 (d) of the legislation, for example, requires the EPA to submit a report to Congress biennially that, among other things, summarizes the roles and progress of each federal agency that has jurisdiction in the Columbia River Basin toward meeting the identified goals and objectives of the plans. Section 3 (f) requires the President, as part of his annual budget submission to Congress, to submit information including an interagency crosscut budget that displays amounts obligated, budgeted and proposed for each federal agency involved in protection and restoration of the Columbia River Basin. This important oversight feature will help provide the public with information on what the federal government is doing in the region as well as prevent redundancies that waste taxpayer dollars. The \$40 million authorized by the legislation is consistent with other regional water programs, and is significantly less than authorized for the Great Lakes and Chesapeake Bay programs.

Third, I would like to address the issue of whether this bill should deal only the Lower Columbia River Estuary or the entire Columbia River system. I strongly believe that a more limited program focused solely on the River below the Bonneville Dam would be less effective and miss the point. It also doesn't make hydrologic sense to separate the Upper River from the Lower. We can't ignore the fact that many of the impairments in the estuary, where the River's endangered salmonids visit twice in their lives, come from contaminants in the Upper River. In addition, much of the Upper Basin includes waters with fish consumption advisories due to high levels of mercury, PCBs and other contaminants. This bill would authorize funding for voluntary programs to reduce those impairments.

Paul Lumley, a citizen of the Yakama Nation (whose reservation and ceded territory overlap with Representative Hastings' district), testified at the hearing about importance of healthy, non-toxic fish to Native Americans throughout the Basin. His written testimony stated, "The Columbia River Estuary is underserved and is critical to ecological health and to toxics cleanup and control, but it is only a small percentage of the entire Basin where pollutants originate and must be controlled."

There is a question about how we coordinate efforts in the Lower and Upper River. There is currently no funding for a basin-wide effort to reduce toxics. I agree with my colleague that it doesn't make sense to extend the National Estuary Program beyond the Bonneville Dam and into the Upper River Basin. The Columbia River Restoration Act doesn't do that – the Lower Columbia River Estuary Partnership's Comprehensive Conservation and Management Plan would continue to apply to the Lower River and the EPA's Columbia River Basin Toxics

Reduction Action Plan, which was developed by the Columbia River Toxics Reduction Working Group, would guide toxic reduction actions along the entire River.

The Columbia River Basin is large and impacts the entire Pacific Northwest. I feel strongly that, as the bill moves through this Committee's process and to the Floor, it's important to work with all members whose districts are impacted. This is why I was pleased that Representative Hastings came to the hearing to express his concerns. My staff had reached out to his prior to introduction, and had mistakenly taken the lack of response to indicate a lack of interest. But now that I know of his interest, I will be happy to work with him to address his concerns as the bill moves through the process. The intent of the legislation is to build on and support the voluntary, locally initiated collaborative work being done to reduce toxics in the Basin. I hope that all members of Congress can support it.

TESTIMONY

Presented Before the
Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment
Oregon State Senator Jackie Dingfelder
April 28, 2010

Good morning Madame Chairwoman and members of the Committee.

My name is Jackie Dingfelder, and I am a member of the Oregon State Senate. I represent Senate District 23, which includes portions of NE and SE Portland.

Thank you for this opportunity to speak on behalf of the Columbia River Restoration Act of 2010.

The State of Oregon has made significant investments, even in these difficult economic times, to improve watershed health within our State. Most notably, during the 2007 Legislative Session we increased funding to the Oregon Department of Environmental Quality (known as DEQ) to institute a statewide toxics reduction program. As part of this program, DEQ will work in 18 basins in Oregon to monitor for toxic pollutants in water, fish, and sediment; and the agency will assess current use and legacy pesticides, industrial chemicals and chemical by-products, pharmaceuticals, and personal care products.

In 2008, Oregon targeted the Willamette River Basin for toxics monitoring and reductions. The State is looking at 20 sites that are sampled twice per year for unfiltered surface water at a cost of about \$1 million a year.

Some of the findings so far include:

- Herbicides were the most frequently detected class of pesticides measured in surface water.
- Pharmaceuticals were detected at low concentrations
- Copper, lead, arsenic, silver and zinc concentrations were above Oregon criteria adopted to protect aquatic life
- Levels of polychlorinated biphenyls measured in composites of fish fillet at all sites approached or exceeded screening levels for subsistence fishers
- The combined mixture of dioxins and furans in fish from all sites was above US EPA screening levels for subsistence fishers as well as recreational fishers
- Pesticides such as Dieldrin was detected above US EPA screening levels for subsistence anglers in a composite sample prepared from smallmouth bass collected in the Tualatin River.
- Mercury concentrations in fish tissue has significantly increased from 2002 to 2008 and was found at concentrations that exceeded screening levels established by the EPA for subsistence fishers and often exceeded the threshold value used by the Oregon Department of Human Services to issue fish consumption advisories

Although these are findings from the Willamette River, it eventually flows into the Columbia River thus we are concerned about contaminants that are entering the Columbia River System.

The State of Washington shares many of Oregon's concerns regarding the Columbia River, and in fact Washington is making its own investments in improved water quality. Yet, the states simply cannot provide all the needed resources that are required to protect this important river system. The Columbia is, after all, a shared water body, a federal navigable waterway, and a major US transportation corridor.

Investment in the lower river and estuary is considerably less than what the federal agencies have made in the remainder of the Basin. The major funder currently is the Bonneville Power Administration (BPA), through the Biological Opinion, and its investments have been focused for decades above Bonneville

Dam. In fact, BPA began investing in the lower river only as recently as 2003 and has targeted less than 7% of its funding to that region.

However, the lower Columbia River and estuary are significantly impaired. This impairment is due to contaminants entering the river below Bonneville—notably from the Willamette and from runoff from the 31 towns in the lower river—but also from contaminants that start far up in the Basin and end up deposited in lower river sites.

This is an unacceptable situation: every ESA-listed threatened and endangered salmonid in the entire basin uses the estuary at least twice in its life cycle.

The economic challenges facing the states are monumental. Oregon has one of the highest unemployment rates in the nation, and Washington is not far behind. This bill will provide a major investment in toxics reduction and clean up in the lower Columbia River, but this bill will also be an essential component to our economic recovery. As we work to improve the Columbia, we can provide immediate jobs through such work as monitoring, analyses, and other clean-up activities. Plus, this bill secures our region long-term economic advantages: it cleans up the sediment and water quality to bring back fish and keep ports operational, and it gives clean up assistance to farmers to keep them producing and shipping products to international markets.

The Columbia River is a national priority—the lower river is an estuary of national significance, and the Columbia River Basin is a Great Water Body. However, only the Columbia, and the recently added Pacific Islands, received no appropriations pursuant to this designation.

We need to act now to improve the lower Columbia River and estuary. Our region has done many plans over the past ten years, and they all say the same thing: restore habitat and reduce toxics. I am confident that the Columbia River Restoration Act of 2010 will greatly assist us in reaching this goal, and I urge your support for this bill.

Thank you for this opportunity to speak. I would be happy to answer any questions you may have.

House Transportation and Infrastructure Committee
Water Resources and Environment Subcommittee
Committee on Transportation and Infrastructure

TESTIMONY OF JOHN GIOIA

Chair, Contra Costa County Board of Supervisors
Vice Chair of the San Francisco Bay Restoration Authority
Member, Bay Conservation and Development Commission
Executive Board Member, Association of Bay Area Governments
Secretary, Bay Area Air Quality Management District

Madam Chairwoman, Members of the Subcommittee, good afternoon.

My name is John Gioia. I'm here today to testify from the perspective of regional and local governments in the San Francisco Bay Area about the great need for increased federal investment in the San Francisco Bay. I am the Chair of the Contra Costa County Board of Supervisors and also serve on a number of state and regional commissions which set policy for the Bay Area. I am the Vice Chair of the San Francisco Bay Restoration Authority, the Secretary of the Bay Area Air Quality Management District and also serve on the Bay Conservation and Development Commission and the Executive Board of the Association of Bay Area Governments. I also formerly served for 10 years on the East Bay Municipal Utility District Board of Directors, one of the largest water and wastewater agencies in California.

San Francisco Bay is the defining geography of Northern California. It supports our economy and its health greatly impacts the quality of life for our region. It is the equivalent of a national park in our front yard – a resource and a treasure.

The restoration of San Francisco Bay is of national importance and warrants substantial Federal investment. It is a key component for the protection and enhancement of the west coast fishery..

The Golden Gate entrance to the Bay is a gateway to world trade and one of the most important ports on the West Coast. Goods transported between Bay Area ports and points around the globe originate from or are transported to communities around the country, and are shipped by train, truck, or air, benefiting economies nationwide. The health of San Francisco Bay helps drive the Bay Area economy, which in turn impacts the national economy. According to 2010 data, the Bay

Area is home to 3,475,840 jobs. These jobs contribute greatly to the economic vitality of our nation.

While San Francisco Bay benefits local, regional, and national economies, local governments are increasingly bearing the primary costs of stewardship. This includes the costs of restoration and of protecting and maintaining the Bay's health.

The San Francisco Bay and Delta make up the largest estuary on the west coast of North and South America and its watershed area drains over half the state of California. One of the biggest challenges to maintaining the Bay's health is the fact that it is the most urbanized estuary in the United States.

According to the most recent estimates by the Association of Bay Area Governments, 7,341,700 people live in the 101 cities and nine counties of the Bay Area, and approximately half of this population lives within five miles of the Bay. And they all live uphill from the Bay – which means that what flows off our roads, parking lots, farms and lawns, including all the contaminants, ends up in the Bay.

Historically, cities grew and developed along the Bay and its many creek-lined watersheds, as people and industry were drawn to water resources, beauty, and recreation. Unfortunately, in a story played out in shoreline communities around the country, our knowledge of the fragility of water ecosystems didn't keep pace with development, and as the Bay Area grew, the San Francisco Estuary suffered. Years of filling the Bay, industrial pollution, poor or no sewage treatment, polluted stormwater runoff, and shoreline garbage dumps all took a devastating toll on water and wetlands quality, which in turn negatively affected wildlife, air quality, public health, and recreational opportunities. The economic value of the Bay was eroding.

The good news is that over the past few decades, local governments in the San Francisco Bay Area, working with citizen and environmental groups, have taken proactive steps to reverse this steady decline in the ecological health of the Bay. They set in motion a comprehensive planning effort to improve the health and vitality of the Bay, which includes substantial investments in infrastructure to carry this out.

POLLUTION CONTROL EFFORTS

Cities and counties as well as water, sewer, stormwater and flood control agencies surrounding the Bay maintain the highest standards of pollution control in the nation. Citizens hold the Bay dear to their hearts and are willing to do what it takes to protect it. But today, we find that we are unable to meet our own protective standards due to the deterioration of an aged infrastructure system in the face of a growing population and declining revenues. The costs to improve this system are well beyond the ability of local agencies.

For example, just in the area of sewage treatment, Bay Area wastewater agencies have invested well over \$10 billion in plant upgrades since the passage of the Clean Water Act in 1972. But due to the combination of declining federal and state funding, an aging infrastructure, and population growth, it will become increasingly difficult for the 46 sewage treatment plants along the Bay (including an aging collection system of more than 10,000 miles of pipe) to maintain their high water quality standards.

As a region, we face substantial costs to upgrade our wastewater collection and treatment systems to insure prevention of sewage overflows that further damage the Bay. In recent years, overflows have become more frequent as a result of the aging system. Upgrades are also needed to keep pace with our rigorous water quality standards.

We need to expand the use of recycled water both to reduce discharges to the Bay and to reduce demand on over-drafted surface and groundwater supplies. To accomplish this, we need to upgrade regional treatment plants and build new distribution networks to replace the wasteful use of potable water with recycled water wherever possible.

The even bigger problem is stormwater runoff, which is the largest contributor to Bay pollution, and the most difficult to manage. Untreated stormwater runs into the Bay from streets, gutters, creeks and drainage systems, bringing a variety of pollutants from trash to chemicals.

In addition to runoff from communities in the nine-county Bay Area, urban and agricultural runoff from California's vast Central Valley ultimately reaches the Bay, and has very minimal levels of control.

Bay Area communities are aggressively tackling the problem of stormwater runoff, or non-point pollution with recycling programs, public education campaigns, and lobbying to regulate sources of pollution such as the use of plastic shopping bags or foam food containers. We are using contemporary strategies, including “Low Impact Development”, including the reduction of impermeable surfaces in order to decrease runoff to the Bay.

City and county stormwater management programs are seeking to address these issues, but face a major financing obstacle. Most Bay Area stormwater management isn’t covered by a fee or rate program, like wastewater treatment. Agencies cover the costs without a mechanism for collecting fees from property owners.

Under California law, local governments need a two-thirds vote of the people, or a majority of the property owners to start a rate or fee based stormwater management program, or to raise fees or taxes to improve existing systems. As a result, management of stormwater quality is significantly underfunded.

Consequently, the region is spending the least amount of money on one of the biggest problems and there is no hope in sight that this will be corrected.

Let me make this point very clear – Bay Area voters will be more likely to approve local tax increases to fund needed improvements if they know that increased local dollars will leverage federal monies and investment.

REGIONAL COOPERATION TO SOLVE PROBLEMS AFFECTING THE BAY

Local and regional agencies in the Bay Area are working cooperatively to solve our region’s problems. We are tackling transportation, air and water quality, and land use issues on a regional level. All of these issues impact the health of San Francisco Bay. Federal assistance to support our efforts will leverage greater local dollars to sustain these initiatives.

Let me mention a few examples of some of our regional efforts.

Bay Area leaders recognized years ago that land use planning has enormous impacts on water and air quality. As a result, the Association of Bay Area Governments has led a regional effort to focus on infill development. By encouraging development in areas where there is access to transit, jobs and utility capacity, there will be less sprawl, less commute travel, more efficient utility

service and improved air and water quality. This region-wide effort has led to the identification of “Priority Development Areas” with economic incentives for development in these areas.

In addition, land use planning in the Bay Area is being increasingly focused on the watershed unit in order to take advantage of the benefits to local communities that are provided naturally by the ecological functions that the Bay and its tributaries perform. Local governments in the Bay Area are improving land use planning and the sustainability of their communities by tailoring our plans to the particular features of the San Francisco Bay watershed. This watershed planning approach promotes both healthier communities and a healthier Bay.

The Bay Conservation and Development Commission has established a Climate Change Planning Program. The goals of this program are to: 1) identify and report on the impacts of climate change on the Bay, 2) identify strategies for adapting to climate change, and 3) develop a regional task force to inform and coordinate local governments, stakeholders, and land use planning bodies in the Bay Area regarding the potential Bay-related impacts of and approaches for adapting to global climate change.

The Regional Water Quality Control Board recently issued a new and highly progressive stormwater permit to Bay Area counties. The permit uses a regional approach to several water quality issues.

Bay Area flood protection agencies are protecting our communities from flooding while also preserving and enhancing riparian corridors.

Communities around San Francisco Bay have been working collaboratively with the Regional Water Quality Control Board, Bay Conservation and Development Commission, well-respected non profits, and universities on a variety of scientific endeavors to improve the health of the Bay. These efforts have resulted in developing a Bayland Goals report and Historical Ecology reports on several watershed areas that help direct investment in wetland and riparian system restoration. More research is still needed to develop cost effective methods for communities to implement these strategies.

Finally, and probably most exciting, is the establishment of the San Francisco Bay Restoration Authority, which is a new regional government agency charged with rebuilding San Francisco Bay through the raising and granting of funds to restore the Bay’s critical tidal wetlands. Today, over 36,000 acres of restorable Bay

shoreline is in public ownership and proposed for restoration to tidal wetlands. Restoring these 36,000 acres is estimated to cost up to \$1.4 billion over 50 years. While there is identified Federal and State funding available to complete some of this massive project, the Authority's mission is to formulate a strategy for raising local revenues to fill the funding gap. Additional Federal investment in this effort would greatly enhance the Authority's ability to get local voters to support funding this vital project.

Wetlands play a central role in the battle against global warming, and scientists from the United Nations and the White House have identified wetland restoration as a priority strategy in fighting global warming. In addition, the wetland restoration envisioned in this project will be an important benefit to Bay-related industry and the regional economy.

In conclusion, the San Francisco Bay Area is on the verge of implementing a successful plan to restore our treasured estuary. We have a Comprehensive Conservation and Management Plan, strong regional leadership on this issue, a history of successful collaboration among local, regional and state policymakers and active citizen groups, and we have the commitment and expertise to carry this out. All we need is a strengthened partnership with the Federal Government along with an increased investment and we will be able to make great strides in improving the health of this critically important estuary for the region, the nation and the world to enjoy for generations to come.

Thank you for the chance to testify before you today.

DOC HASTINGS
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House of Representatives

Statement of Congressman Doc Hastings
Subcommittee on Water Resources and Environment
Committee on Transportation & Infrastructure
April 28, 2010

Thank you Chairwoman Johnson and Ranking Member Boozman for allowing me to join you at this hearing and to share my thoughts on H.R. 4652, titled the "Columbia River Restoration Act."

In 1995, the Lower Columbia River estuary became one of 28 estuaries to be included in the National Estuary Program. In that regard, I applaud the work of the Lower Columbia River Estuary Partnership, a public-private initiative involving the states of Washington, Oregon, some 28 cities, nine counties and other entities.

Since 1999, the Lower Columbia River Estuary Partnership has adopted and begun implementing a comprehensive management plan that defines an estuary as "the area where the fresh water of a river meets the salt water of an ocean." In the Columbia River system, this occurs approximately in the lower 46 river miles. The Partnership's management plan also covers an extended area from the Pacific Ocean to Bonneville Dam at river mile 146, because of the far-reaching effects of the ocean's tides. None of us here today will disagree on the importance of the Estuary Partnership's work to restore this portion of the Columbia River, which includes important nutrients for developing salmon and other marine life.

While I appreciate the good intentions of parts of H.R. 4652 that would support efforts already authorized and being implemented in the lower Columbia River estuary—areas now represented by my colleagues Representatives Blumenauer, Wu and Baird – I am deeply disappointed and concerned that other aspects of the bill proposes to greatly expand the scope and management authority of the Environmental Protection Agency to over 500 miles of the Columbia and Snake Rivers that cut through the Fourth Congressional District of Washington that I represent.

Northwest farmers, irrigators and family foresters – speaks volumes about the very real deficiencies of the bill, and, which, I fear, would elevate EPA’s regulatory authority above everything else. This includes EPA potentially superseding the current regulatory authority of NOAA Fisheries, the Army Corps of Engineers, Bonneville Power Administration, U.S. Fish and Wildlife, Bureau of Reclamation, Department of Energy, and others. As written, this bill could destroy collaborative regional partnerships, increase lawsuits, and ultimately, would not focus efforts where they should be—to improve salmon runs, produce clean, renewable energy, and allow one of the most productive agricultural areas in the nation to continue producing food.

Further, section 123(b) of H.R. 4652 would authorize the EPA Administrator to establish a “Columbia River program team” led by a single “team leader” designated by the EPA Administrator to “coordinate” several functions of the federal government, including agencies, programs and studies for endangered species recovery. The Committee on Natural Resources, of which I am currently Ranking Member, has jurisdiction over all Endangered Species Act matters and should be permitted to further review this bill.

The bill also allows the EPA Administrator to appoint personnel and “utilize other available methods” in carrying out the duties of the bill. The bill takes the extraordinary step of codifying EPA’s implementation plan under the Clean Water Act—something that is rarely done for specific National Estuary Program projects. I am concerned that these broad provisions might have unintended, far-reaching consequences with other regional activities involving river operations.

The bill also authorizes \$40 million for the EPA Administrator to carry out functions of the bill at EPA’s discretion. This amount is more than the current authorization for the entire National Estuary Program for all 28 estuaries around the country. I am greatly concerned that this bill would create a new bureaucracy that would overlap and interfere with significant on-the-ground federally-funded watershed programs already underway in the Columbia Basin as well as significant federal efforts to make dams more fish friendly while continuing to produce an important source of clean, renewable energy supply. It also comes during difficult economic times for our nation—when the American people expect Congress to make sure federal tax dollars are used as efficiently and wisely as possible.

To the Members of this Committee, I would ask that before further action is taken on this bill, that proper consultation occur with Members whose districts would be affected, so that they may consult with their constituents on the provisions, wording and potential reach of the bill. It is also important that questions on the potential unclear impacts and risks posed by this broadly worded bill be carefully reviewed and vetted before any further action is taken.

Thanks again for allowing me the opportunity to raise my concerns on H.R. 4652.



House Transportation and Infrastructure Committee
Water Resources Subcommittee

TESTIMONY OF JUDY KELLY

DIRECTOR, SAN FRANCISCO ESTUARY PARTERSHIP

Madam Chairwoman, Members of the Subcommittee, good afternoon.

My name is Judy Kelly. I am the Director of the San Francisco Estuary Partnership, a collaboration of state, federal and local agencies, citizens, businesses and the science community working to restore and protect the San Francisco Bay Estuary. I am here today to speak on behalf of H.R. 5061, the San Francisco Bay Improvement Act of 2010, which was introduced by Representative Jackie Speier and has been co-sponsored by every one of the Members of Congress from the San Francisco Bay region. My mission today is to tell you a little bit about our Estuary, how far we have come in our efforts to protect it over the past almost quarter century, and the urgency we feel about intensifying our work, and our effectiveness, in the next few years. For the San Francisco Estuary and the residents who call it home, commercial interests, and wildlife that depend on it for our lives and livelihoods, H.R. 5061 is a lifeline. We owe Representative Speier our thanks, and our admiration for bringing it forward, and thanks also to Chairmen Oberstar and Johnson, and ranking members Mica and Boozman for their dedication to restoring this country's great waters.

The San Francisco Bay Estuary

It is an honor and a pleasure to speak to the Committee about the largest estuary on the West Coast, known throughout the world for its breathtaking beauty, the iconic bridges that span its waters, and the great cities that surround its shores. The Estuary, despite 150 years of alteration to its shoreline and waterways, is still a key engine that provides enormous economic and environmental benefits to the people of the region, the state, and the nation.

Cargo ships from all around the Pacific Rim depend on the ports and infrastructure of the Estuary. The San Francisco Bay Area is the United States' fourth largest exporting region, accounting for 36 percent of California's exports. Herring and Dungeness crab rear in the waters of the Estuary, and along with our struggling stocks of salmon and steelhead, help support a fishery, both recreational and commercial, from Mexico to Canada. The Estuary's vast network

of open water, sloughs, rivers, and tidelands host millions of migratory birds every year as they move up and down the Pacific Flyway, attracting national and international visitors to our shores. In 2009, the City of San Francisco alone hosted over 15 million visitors, adding some \$8 billion to the Bay Area economy and many more billions of dollars to our nation's wealth. The Bay and Estuary help power this economic engine, and the health of the ecosystem is vital to keeping it running. As this Committee is so aware, clean water and a healthy Estuary are critical not only for the health of humans, fish and wildlife, but also to maintain our regional economic vitality and continued support of the state's, and nation's, economy.

A National Estuary Project

While over 7.5 million people call the Bay Area home, the San Francisco Estuary does not belong to the citizens of California alone. In 1987, when the National Estuary Program was first authorized, Congress recognized the San Francisco Estuary as an "estuary of national significance." With this designation the United States Environmental Protection Agency, the state of California, a host of local and regional agencies, and hundreds of citizens with a stake in the Estuary's future pledged to work together to improve habitat for fish and wildlife and to provide a healthy ecosystem and continued economic opportunities for the people who depend on its waters for their livelihoods. Almost thirty years later, the Estuary Partnership has over 100 partner agencies and entities working toward these goals.

We have come a long way together since the National Estuary Program was authorized. Where our region's coastal wetlands were just a few years ago reduced to a meager 10 percent of their historic area, we have now embarked on the largest wetland restoration effort in the nation. Our partners have acquired and are restoring nearly 67,000 acres of wetlands around the Estuary, working toward our goal of 100,000 restored acres. By cleaning up former military bases and restoring salt ponds to vibrant wetlands we are bringing back endangered species, supporting young salmon, birds, and other wildlife, and helping to make the entire Estuary more resilient against the effects of climate change, including sea level rise and an eroding bayshore.

Over the past 20 years members of the Partnership have identified and begun the long process to reduce many of the pollutants entering the Estuary; created widespread public access to the shoreline; sponsored environmental education programs in schools; implemented an innovative plan for recycling sediments from dredged shipping channels; and supported research and initiated action plans for dealing with invasive species, restoring native species, and protecting imperiled streams and wetlands. Partnership staff administers grants that support nearly 50 different environmental projects around the Bay.

The regional science teams working on estuary issues are world class and their efforts have helped to guide the Partnership's efforts. Working with faculty from the Bay Area's great universities and scientific staff from the United States

Geological Survey and other scientific organizations, we sponsor a biennial conference on the State of the Estuary and scientific symposia on a wide range of topics from invasive species management to issues surrounding the health of the Sacramento-San Joaquin River Delta and California's water supply. We are beginning to tackle the trash epidemic in our waterways, and have supported demonstration projects that show the way to create "green streets" and rain gardens that help treat the pollutants in urban stormwater runoff. Almost every waterway in the region—from tiny urban streams to large rivers—has a citizens' group working to keep it clean and restore its habitat—all with an eye to improving water quality in San Francisco Bay.

Keeping tabs on actions and results is fundamental to Partnership efforts. In addition to our biennial conference reports where we summarize new and ongoing research and ecosystem trends, we have embarked on a major update on the health of the estuary. To be completed in mid-2011, the new State of the Estuary assessment will describe the status of the many indicators of estuary health and in so doing, continue the Partnerships long commitment to providing decision makers and the public with the best information possible how best to manage our estuary.

The region's accomplishments are considerable, but the task that remains ahead of us is enormous.

Since 1993 the Partnership's efforts have been guided by the Comprehensive Conservation and Management Plan (Plan), the master environmental planning document for the Estuary, which we updated in 2007. The Plan is a collaboratively produced, consensus-based agreement among federal, state, and local government entities that defines the actions that must be taken to protect and restore the Estuary. It serves as a roadmap for restoring the Estuary's biological, chemical, and physical health. While we have made substantial progress in implementing its 200 prioritized actions, a great deal more needs to be done. Many of the actions identified in the Plan rely on regulatory or policy initiatives, and behavior change on a broad scale, to ensure implementation – initiatives and changes that require significant, sustained investments of resources. Our capacity to effect the change that needs to happen is limited not by lack of will but by resources.

Our Federal Partnership

The partnership between the federal government, the state, and the region in implementing the Plan has been a strong one. For their parts, California and the Bay Area continue to be committed to addressing water quality issues, restoring a healthy ecosystem and maintaining economic vitality. Over the past 10 years, in spite of persistent budget problems, California voters have supported many bond issues that support water supply and ecosystem restoration. The California legislature recently created the San Francisco Bay Restoration Authority, tasked with exploring local funding options for wetland restoration.

As a major landowner and stakeholder, the federal government also has a vested interest in ecosystem restoration and water quality issues in the San Francisco Bay Estuary. The federal government owns and maintains seven national wildlife refuges around the Bay: the largest are the Don Edwards National Wildlife Refuge with 30,000 acres in the South Bay; and the San Pablo Bay National Wildlife Refuge—13,200 acres in the North Bay.

Yet federal policies contribute in major ways to the crisis we face. The federal water projects irrigate thousands of acres of agricultural land in California, making California the leading agricultural producer in the United States with receipts totaling over \$36 billion in 2008. Since 40% California drains into the estuary, this success has come at the price of a highly altered estuarine ecosystem.

Over 25,000 acres of Federal military bases on the shores of the Bay and the Estuary have been decommissioned over the past 30 years. In many cases, those bases left behind pollutants that have compromised water quality and contaminated wildlife habitat in the Estuary. We have a plan for restoring that ecosystem, but we need the active support of the Federal government and Congress, working in cooperation with the state, localities, business and citizen groups to make this happen.

What New Funding will mean for Partnership Efforts

We have a blueprint for restoring the San Francisco Bay Estuary. The Comprehensive Plan addresses all aspects of Estuary restoration, from reducing pollution to conserving wildlife habitat to preserving the productivity of the Estuary's commercial enterprises. The expanded funding envisioned by Congresswoman Speier and her colleagues in the Bay Area delegation will enable greatly accelerated restoration of the estuary system resulting in multiple ecological and economic enhancements. And, it comes at a crucial time.

New challenges and opportunities create an urgency and opportunity to take actions now that will have huge benefits in both the near and long term. Restoring our bay wetlands is one of these key opportunities. Global warming is expected to result in sea level rises in San Francisco Bay of 16 inches by mid-century and 55 inches by the end of the century. The bay has already risen 8 inches over the past 90 years. The economic value of Bay Area shoreline development--buildings, roads, airports, trails and parks--at risk from a 55-inch rise in sea level is estimated at \$62 billion--nearly double the estimated value of development vulnerable to sea level rise along California's entire Pacific Ocean coastline. The tidal wetlands at the bayshore are our region's first line of defense against sea level rise associated with climate change. These marshes form natural levees and act as buffers that protect developed areas from flooding—at far less cost than building engineered barriers.

Since many of the nation's endangered species depend on wetlands for food, rearing their young, resting, and survival, restoring the Estuary's wetlands will benefit endangered coho salmon, threatened Central California coast steelhead, and several federally-listed plant species. These wetlands also are a critical stopover for migratory birds on the Pacific Flyway, and their diminished capacity to support those species has contributed directly to reductions in their populations. Wetlands also trap pollution, naturally cleaning the Bay of several pollutants that we now treat at great economic expense.

In addition to wetland habitat restoration, we are poised to intensify our pollution prevention efforts. Today, public health warnings are associated with consumption of most species of fish found in the Bay, and the commercial fishing industry, which was thriving just a few decades ago, seems to be following our commercial shellfish harvesting industry into extinction. We know where many of the toxic hot spots are that are contributing to this decline; with additional resources we will be able to take more mercury-laden sediments out of our urban watersheds; track and reduce the sources of PCB contamination; and expand the work already underway to implement the many water quality limitations identified for action in streams and rivers throughout the region.

Currently, the region has over 88 water bodies including bays, streams and rivers identified by the U.S. EPA as impaired; over 333 listings are now proposed for the Clean Water Act 303(d) List. At present there are TMDLs, "Total Maximum Daily Loads," action plans to address more than 160 of these listings. To date eleven TMDLs have been completed and another twelve are in development. Implementation of these plans, in most cases, relies on funding resources external to the regulatory agencies EPA has charged with developing the plans.

Our sense of urgency about making more improvements now, led the Partnership to conduct a strategic planning process, completed late last year, which identified a set of key action areas on which to focus. We intend to expand the regional wetland restoration efforts currently underway; we will also work to build on the array of innovative local initiatives working at the community level to better treat and manage stormwater and to make our urban communities healthier and more pleasant places to live and to work; we will continue efforts to identify and remediate legacy and emerging toxic contamination; and we will bolster the efforts of dozens of partner entities from every county ringing the estuary in their efforts to return their streams and rivers to health.

Restoring the San Francisco Bay Estuary with help from HR 5061 will not only provide benefits to fish and wildlife, but will also provide critically important services for the human community. It will help preserve a national icon and a vital economic and environmental resource beloved by the nation and world.

Thank you again, Madam Chairwoman. I would be glad to answer any questions or assist you and the committee in any way possible.



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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**Testimony of
Paul Lumley
Executive Director, Columbia River Inter-Tribal Fish Commission
to the
Subcommittee on Water Resources and Environment
of the Committee on Transportation and Infrastructure
United States House of Representatives
"Protecting and Restoring America's Great Waters, Part II: The
Columbia River and the San Francisco Bay."
April 28, 2010**

Good afternoon, Chairwoman Johnson and members of the Subcommittee. Thank you for the invitation to testify here today on the ecological health of the Columbia River, its effect on the salmon people of the Basin, and the Columbia River Restoration Act of 2010.

My name is Paul Lumley. I am a citizen of the Yakama Nation and currently serve as the Executive Director of the Columbia River Inter-Tribal Fish Commission in Portland, Oregon. The Commission was formed in 1977 to represent the interests of the four Columbia River Treaty Tribes in matters related to tribal fishing rights and overall fish health. These tribes are the Confederated Umatilla Tribes, the Nez Perce Tribe, the Warm Springs Tribe, and the Yakama Nation. Over one hundred and fifty years ago, our ancestors, representing these sovereign nations, signed four similar treaties with the United States of America¹.

Our tribes ceded approximately 40 million of acres of land, roughly one-third of the Basin, to the federal government as part of these treaties. These ceded lands form major portions of what are now the States of Oregon, Washington and Idaho. In exchange, the United States made certain promises. Chief among them was the promise that our pre-existing "right of taking fish" would be honored, forever, including the right to take fish at "all usual and accustomed" fishing places, which extend beyond the boundaries of our reservations and our ceded lands. The treaty fishing right is, however, a place-based right and we are a place-based people. We cannot move our reservations or our fisheries to escape water pollution.

Implicit in the treaty promise was the understanding that the fish we take would be healthy and safe to eat. Since time immemorial, our ancestors sustained their families

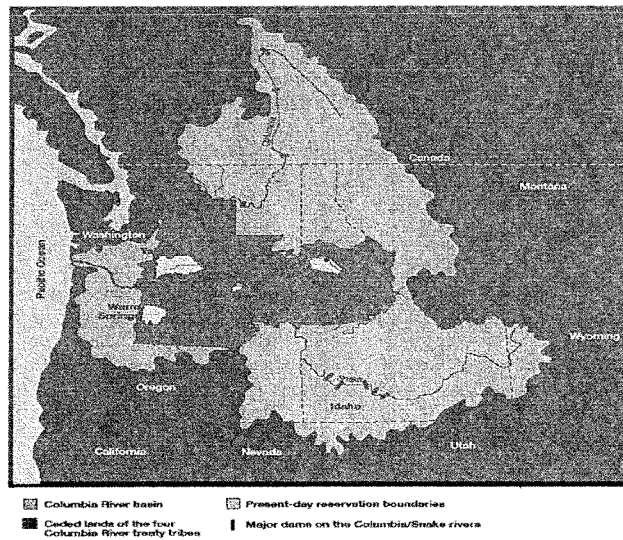
¹ Treaty with the Yakama Tribe, June 9, 1855, 12 Stat. 951; Treaty with the Tribes of Middle Oregon, June 25, 1855, 12 Stat. 963; Treaty with the Umatilla Tribe, June 9, 1855, 12 Stat. 945; Treaty with the Nez Perce Tribe, June 11, 1855, 12 Stat. 957.

and communities with salmon. They did not sign a treaty to take fish that are inedible because they full of toxins and other contaminants.

The Columbia River Basin

The Columbia River Basin encompasses approximately 258,000 square miles of mountains, forest, rangeland and coastline extending predominately through the States of Washington, Oregon, Idaho and Montana into Canada. Twelve major tributaries, the longest of which is the Snake River, feed the Columbia River. The Basin contains over 250 reservoirs and about 150 hydroelectric projects including 18 dams on the Columbia and Snake Rivers.

The Basin is home to many species of fish and wildlife. Our treaties reserve the right for our harvest not only salmon, but all of our "First Foods" - gifts of the Creator - that sustain our bodies and spirits. These First Foods include the water, salmon, elk, roots, and berries. Our traditions and ceremonies recognize these gifts in this order.



The State of Salmon Recovery and Restoration

Fifteen years ago, the Umatilla Tribes wrote to President Clinton, asking him to declare a State of Emergency over seriously diminished salmon populations in the Columbia River Basin. In the early 1990s, the first of over a dozen salmon species was listed under the Endangered Species Act.

By mid-decade, little had been done to halt their decline. Returning adult salmon numbers had dropped dramatically. Religious leaders from our longhouses wrote to tribal officials, decrying the lack of salmon for vital traditional cultural ceremonies. In response our tribal governments crafted a comprehensive salmon restoration plan – Wy-Kan-Ush-Mi Wa-Kish-Wit (*The Spirit of the Salmon*).

The regional response has been profound. A 2004 GAO report² chronicled the roles of eleven federal agencies, seven states, and thirteen tribes working to restore ecological functions under a complex rubric of statutes, treaties, executive orders and directives.

After years of constant struggle, however, some salmon populations have begun to rebound. Improvements have been made in some operations at federal dams. There is some hope that improvements may also be made at major non-federal dams licensed by the Federal Energy Regulatory Commission. Other efforts are underway or are planned that will benefit essential salmon habitat, in both the mainstem Columbia and Snake Rivers and in their many tributaries. Northwest tribes have been valuable leaders and partners in many of these efforts.

Nevertheless, no salmon species has been de-listed from the ESA. Other important fish resources, such as Pacific lamprey, are disappearing. A majority of returning salmon adults still originate from hatcheries. Climate change impacts are already being felt in the region, are predicted to get worse, and will pose additional risks to fish and other tribal First Foods.

And, perhaps most significantly, during this period there occurred a growing awareness, supported by mounting empirical evidence, of the alarming fact that fish in the Columbia River were exposed to a wide range of dangerous toxins in addition to all the other threats to their existence and survival. Major federal investments are helping to offset the impacts of the Federal Columbia River Power System, but there is no significant basinwide effort for toxics reduction. This absence adversely affects fish and human health. Our treaty signers envisioned and secured a wholesome resource when they negotiated with the United States in 1855.

² "Columbia River Basin: A Multilayered Collection of Directive and Plans Guides Federal Fish and Wildlife Activities" General Accounting Office, June 2004. GAO-04-602

The Tribal Fish Consumption Survey & Fish Contamination Study

In 1991 CRITFC on behalf of its member tribes entered into a cooperative agreement with the U.S. Environmental Protection Agency (EPA) to examine the potential health risk to tribal members who consume Columbia River fish. This agreement produced a landmark 1994 study conducted jointly by the tribes and EPA that demonstrated that members of the four Treaty Tribes consume nine times as much salmon as the general population (113-389 grams/day)³. However, water quality standards for toxics are traditionally based on consumption rates for non-Indians. Thus, tribal members are subjected to disproportionate, far greater hazards from contaminants than is the public at large.

A subsequent study examined the concentrations of fish tissue contaminants and confirmed that many fish in our Northwest lakes, rivers and streams contain a variety of toxins in varying amounts exposing tribal subsistence diets to elevated cancer risks⁴. This study found that adults in CRITFC's member tribes, consuming at the highest fish ingestion rate at about 48 meals per month (389 g/day), have a 1 in 50 chance of contracting cancer from fish in certain areas of the treaty fishing area.

One of our member tribes, the Umatilla, has been working for years with the State of Oregon to address this situation. The Oregon Department of Environmental Quality is in the process of revising its water quality standard for contaminants, using a significantly higher fish consumption rate that will better protect Indian communities—men, women and children.

But revising standards is not enough. The problem must be confronted at the source. Toxic discharges must be reduced. Legacy pollutants must be eliminated. The threat of salmon and the people who eat them from contaminants is far less visible and obvious, much more subtle and insidious, than any dam or forest clear-cut. But it exists, and must be corrected. Wy-Kan-Ush-Mi Wa-Kish-Wit recommends improvement to water quality by eliminating sources of toxic pollution that accumulate in fish tissue and by reducing discharges of other contaminants to meet water quality criteria for anadromous fish.

The Columbia River Restoration Act of 2010

The Columbia River Inter-Tribal Fish Commission and our member tribes support the Columbia River Restoration Act of 2010. We applaud this congressional initiative to develop and introduce this bill that will focus more needed resources on toxics reduction in the Columbia River Basin. It is time for the Columbia—Nch'i-Wána ("The Big River") in our native language—to be recognized as one of the "Great Waters" of the

³ "A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin" (1994).

⁴ U.S. Environmental Protection Agency (EPA), Region 10. Columbia River Basin Fish Contaminant Survey 1996-1998. EPA 910-R-02-006 (July 2002).

United States. The Columbia River Treaty Tribes are ready, willing and able to work with members of Congress to further refine the legislation to maximize its effectiveness.

This is a national issue. The missing component is water quality investment and toxics reductions work. Environmental agencies in our region are facing difficult budget cuts, so greater federal support would be warmly welcomed. The lack of sufficient attention to toxics reduction has been a prominent missing piece of the puzzle.

As recently as the 1970s tribal people, fishing with dipnets from scaffolds would lower a long pole with a bucket attached down to the river below, to lift up the čuuš ("water") to quench their thirst. Unfortunately, due to health concerns increasing non-Indian development and exploitation of our watery lifelines, this respectful practice had to be abandoned.

Northwest tribes have been at the forefront of efforts to preserve and enhance salmon, water quality and other tribal First Foods. We have emphasized scientifically sound and rigorous strategies, cooperative working relationships, and cost effective management. Beyond these immediate approaches, we have always been guided by the wisdom of our ancestors, and concern for the next Seven Generations, as we have sought to maintain and practice our way of life.

The Columbia River Restoration Act of 2010 is a bold, positive step in the right direction. We have three primary recommendations with the current draft of the Bill. First, the administrative organization of the proposed Columbia River program should take into account what has been learned, what works and what doesn't work with the other existing programs. It should reflect our understanding of how the other great ecosystem programs are governed and what has fueled and limited their successes. We believe that the Columbia River program should be directly accountable to the EPA Regional Administrator and to the EPA Administrator. This organizational structure works for the Chesapeake Bay and Great Lakes programs and should be replicated for the Columbia River program.

Second, the proposed allocation of funds and programmatic authority should be modified. Allocating programmatic priority and a specific percentage of funds to the estuary and then to the rest of the Basin has been demonstrated in places like Chesapeake Bay to be a factor that limits success. We would welcome a discussion of necessary resources and allocation for the entire basin, especially upriver areas. The Columbia River Estuary is underserved and is critical to ecological health and to toxics cleanup and control, but it is only a small percentage of the entire Basin where pollutants originate and must be controlled.

Third, our tribes' experience in the Columbia Basin and other large ecosystem planning efforts suggests that a single Columbia Basin strategic planning document should provide the planning structure for the Columbia Basin program. We suggest that EPA's Columbia River Basin Toxics Reduction Plan should be that guiding document, as it addresses the entire Basin, including the estuary. The locally developed Lower Columbia

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April 26, 2010, Page 6 of 6

River Estuary Partnership (LCREP) plan, the Estuary Partnership Comprehensive Conservation and Management Plan, should be nested within the federal EPA Plan and not set out independently. There should be one action plan to which all recovery studies and cleanup efforts tier.

With these improvements the Columbia River Restoration Act will be welcomed heartily into the policy fabric of a very complex Basin. We urge you to pursue its passage.

In closing, I want to emphasize these points:

- 1) Fish and the consumption of fish are central to our tribal life and culture;
- 2) Our members retain rights to gather fish beyond reservation boundaries. Fish gathered in those waters should be adequately protected from toxic pollutants;
- 3) The Columbia River Inter-Tribal Fish Commission Consumption Survey and Fish Contamination study are sound science and should drive federal action on toxin reduction plans, funding and standards;
- 4) The Columbia River Restoration Act could provide the long-needed federal authority and funding source to remedy long –neglected problems.

The Columbia River Inter-Tribal Fish Commission and our member tribes anticipate submitting additional information for the record by the May 5, 2010 deadline.

Thank you again for this opportunity to testify.



TESTIMONY

Columbia River Restoration Act 2010 HR 4652

Submitted by

Debrah Marriott

Executive Director

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TESTIMONY

Columbia River Restoration Act 2010 HR 4652

Presented Before the
 Committee on Transportation and Infrastructure
 Subcommittee on Water Resources and Environment
 United States House of Representatives

Submitted by
 Debrah Marriott
 Executive Director
 Lower Columbia River Estuary Partnership
 States of Oregon and Washington
 April 28, 2010

Good morning Madame Chairman and members of the Committee.

My name is Debrah Marriott, and I am the Executive Director of the Lower Columbia River Estuary Partnership. I am representing the Columbia Basin which includes the study area of the Estuary Partnership, a National Estuary Program.

Thank you for your invitation to speak in support of the Columbia River Restoration Act. This bill recognizes the Columbia Basin as one of the nation's great water bodies. It opens the path to reduce toxic contaminants, improve ecosystems in the Columbia Basin, add significant jobs and begin long term improvements to public health and our economic stability.

The river needs investment. The significance of the Columbia River began for many of us in 1803 with President Jefferson's Lewis and Clark Expedition. To many others, the Columbia has been home for over ten thousand years. From its early days with humans, the Columbia has provided unprecedented fish and sustenance, then trade, and today it continues as the economic, environmental, cultural and historic lifeline of the region and nation. The Columbia is big - the fourth largest river in North America and drains 258,000 square miles.

Over 8,000,000 people live in the Columbia Basin and all depend on it to different degrees for their livelihood and overall quality of life. The Columbia flows through the largest urban area of Oregon and the second largest in Washington. Over 2,000 species of wildlife live in it during some part of their life. The 14 hydropower dams on the mainstem Columbia provide over 75% of the power for the Northwest, more than any other river in North America. Half of the 7.3 million acres of income producing farm and ranch land in Idaho, Oregon, and Washington are irrigated with the Columbia River: sales from these exceed \$10 billion annually. The river's five deep water ports are the nation's primary terminals for several importers of manufactured goods and the major depot for the export of the nation's grain: it carries 39% of all the wheat in the US. The Port of Portland is the largest importer of Toyotas in North America. The river carried cargo worth \$13 billion in 2005; barge shippers saved \$38 million over what the same shipments would have cost by rail. Shipping is more fuel efficient and is less polluting: a ton of commodity can be moved 514 miles by ship compared to 202 miles by train or 59 miles by truck. (Port of Lewiston, Idaho) The Columbia Gorge is the wind surfing capital of the world and is a National Scenic Area. Hundreds of thousands of residents and visitors hike, fish, bike, and boat on its waters and along its shores all year long.

The Health of the Columbia

The Columbia River is impaired from the Canadian border to the Pacific Ocean, as defined in Section 303d of the Clean Water Act. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by the states.

- Fish tissue and sediment contain PBDEs, PCBs, DDT and mercury.
- EPA identified 92 priority pollutants in Columbia Basin waters.
- 100% of the Columbia mainstem (including reservoirs) is impaired.
- 135 water segments on the Columbia have been identified by the state of Washington as impaired.
- For Oregon, EPA calculates that 100% of the Columbia River mainstem (including reservoirs) and in Oregon's portion of the Basin, 81% of assessed streams and lakes are impaired.
- EPA calculates 61% of Idaho's assessed waters are impaired and 99% of assessed lakes are impaired including reservoirs on the Snake River.
- Contaminants include a range including mercury, ammonia, bacteria, DDE, DDT, dioxin, PCBs and arsenic.
- Temperature and dissolved gas level exceed levels safe for species survival. *(Source: EPA)*
- PBDEs are doubling in fish in the upper Columbia River every 1.6 years.

Washington 303d Listings	Oregon 303d Listings	Idaho 303d Listings
Aldrin	Arsenic	Ammonia
Alpha BHC	Arsenic (tri)	Bacteria
Bacteria	Bacteria	Dissolved Oxygen
Chlordane	DDE	Mercury
DDD	Dioxins <i>(TMDL in place)</i>	Nutrients/Phosphorus
DDE	PAH	Pesticides
DDT	PCBs	Sediment
Dieldrin	pH	TDG
Dioxin <i>(TMDL in place)</i>	Temperature	Temperature
Dissolved Oxygen	Total Dissolved Gas*	Unknown Pollutants
Mercury		
pH		
PCBs		
Sediment Bioassay		
Temperature		
Total Dissolved Gas*		

**(TMDL in place)*

Pollutants Identified for Portions of Columbia and Snake River as Impaired

In the lower river.....

- More than half of the lower Columbia River's estuarine wetlands have been lost since the late 1880s; for certain types more than 75 percent.
- Thirteen species of salmonids in the lower river have been listed under the ESA as threatened or endangered.
- Toxics, many banned in the 1970s, are still present in water, sediment and fish today. DDE, DDT, PCBs in salmon tissue and sediment and PAHs present in salmon prey exceed thresholds for delayed mortality, increased disease susceptibility, and reduced growth.
- Contaminants in flame retardants, pharmaceuticals and ingredients in personal care products are present that cause male fish to essentially morph to female within their life cycles. The toxins affect their ability to reproduce, avoid predators, and resist disease, all of which inhibit recovery of the ESA-listed species.
- Legacy contaminants have impaired the reproductive organs of male river otters and thinned eggshells of osprey and bald eagles. *(Source: Estuary Partnership, 2007)*
- Bald eagle reproduction rates between river miles 13 and 31 of the lower Columbia River remain half as productive as elsewhere in Oregon and Washington

- Dozens of sites tested for contaminants in the Bi-State studies of the early 1990s were identified as locations of concern ("hot spots") because they exceeded water quality standards; sediment standards for pesticides, semi-volatile organics, dioxins/furans, and metals and cyanide; and fish tissue contaminant burden reference levels for dioxins/furans, PCBs, and DDE.
- Endocrine disrupting compounds that block or mimic hormones in the body and cause harm to fish and wildlife were detected at 22 of 23 sites sampled in 2007.
- Flame retardants such as PBDEs are widespread in the lower river, especially in urban and industrial areas. PBDEs are known to inhibit the number of osprey produced per nest and are thought to have similar effects on juvenile salmon as PCBs ranging from neurotoxicity to hormone disruption.
- Their presence in the environment is doubling every five years.
- PBDEs are in blood, breast milk and umbilical cord blood.
- Laboratory animals exposed to PBDEs show deficits in learning and memory.
- PBDEs affect thyroid levels in laboratory animals and in wildlife, and may cause birth defects.
- Human breast cancer cells grew twice as fast when exposed to estrogens taken from fish caught near untreated sewage overflows, compared with other fish, increasing risk for estrogen positive cancers.

The Significance of this Bill to the Lower River and Estuary

All the problems of the Basin drain into the lower river and estuary. Contaminants that originate far up in the upper Basin are deposited at lower river sites.

Historically, lower Columbia River fish and wildlife used a wide variety of habitats for shelter, food, rearing areas, and other functions during in their life. However, in the last 100 years up to 84,000 acres of lower river floodplain were converted to agricultural, urban, or other uses – a habitat loss in excess of 50%. Dikes, tidegates, and flood control devices kept the Columbia from inundating riparian areas, radically changed the landscape and restricted fish and wildlife access to once important habitats. Reconnecting the river's tidal influence to these areas improves water quality, restores a more natural food web for salmon and allows a wide variety of species access to a broad range of formerly inaccessible habitats.

Every migratory salmon in the entire Columbia River depends on the lower river and estuary during their lifecycle. Salmon need a complex mix of habitat conditions to thrive: food sources such as terrestrial and aquatic insects; cool water with appropriate levels of oxygen, clarity, and salinity; shallow off-channel habitats for resting, feeding, and refuge; spawning gravel at the appropriate depth; and the right channel contours and current velocities.

The ecosystem's stability and health come from its complexity. In the estuary, fresh river water mixes with salt water from the Pacific Ocean in a unique environment. This transition zone with islands, mud flats, and salt marshes, gathers and holds an abundance of life-giving nutrients from the land and from the sea. This ecosystem contains more life per square inch than the richest farmland and provides for all wildlife. The estuary maintains water quality, attenuates floods, and provides recreation and aesthetic opportunities for all of us. The greater number of distinct habitats within an ecosystem, the more species it supports, the more ecological processes and functions it provides, and the better it withstands disturbances. This wide range of complex, diverse habitats is now greatly diminished in the lower Columbia River and estuary. The thirteen salmonid species listed as threatened or endangered symbolize the consequences of habitat degradation and loss and they are not alone; many other species native to this ecosystem are now listed as threatened or endangered including other fishes, native plants, birds, and mammals.

Loss of fish has decimated our commercial fishing industry. Oregon State University reports that in 1976-1980 the commercial salmon fishing industry provided \$41 million in personal income, dropping to a low of just \$4 million by 1998.

The economic viability of ports and the maintenance of navigation channels are at risk because of limitations to safe disposal of millions of cubic yards of contaminated dredged materials.

Columbia River tribal people eat nine to twelve times more fish than others, posing a significant environmental justice issue. (*Source: EPA-CRITFC, 1994*)

The toxic hot spots identified fifteen years ago have still not been cleaned up.

The NOAA Columbia River Estuary Recovery Module for Salmon and Steelhead alone calls for over \$500,000,000 to recover threatened and endangered species.

The impact on human health- asthma, cancer, neurological disease – as a result of exposure not just to a single toxic, but the accumulation of multiple toxics over time – is simply not addressed. Yet the cost to our health care systems for treating those diseases exceeds a \$1 billion a year. (*Oregon Environmental Council*) Long-term and synergistic effects of pharmaceuticals and similar chemicals on humans are not known and impacts could amplify — or reverse — the effects of some others.

The Progress

While partners in the lower 146 miles have restored 16,235 acres of habitat since 1999, this is only about half of what has been lost since 1880. The number does not calculate what is lost while we are restoring. To recover threatened and endangered species, habitat restoration will now need to be more complex and include toxic contaminant assessment and removal. One tributary in the Northwest, Longfellow Creek, invested millions of dollars in habitat restoration and the fish that returned died. The creek was chosen as a model for stream rehabilitation efforts, featuring man-made gravel beds, pool and eddies and replanted banks. When completed, 88% of the fish entering the stream died before spawning. The water and sediment were then tested and showed extensive contamination in fish tissue, sediment and water coming from contaminated stormwater. Every day, the region's residents unwittingly contribute to stormwater pollution as we do in every water body; dousing yards with chemicals to kill bugs, driving vehicles that leak antifreeze and oil, coating roofs with herbicide to beat back creeping moss. This results in a huge mis-investment of resources. In the Columbia, the only significant funding that has been available has been restricted to restoration of habitat for threatened and endangered species which is only half the equation. As they found in Longfellow Creek, putting in woody debris or revegetating by itself will not bring back fish. We have to monitor and reduce toxics and restore habitat.

We have conducted many one time studies at varying locations in the Columbia Basin; they give only a snapshot about the contaminants at that moment in time. Scientists and community leaders have knit those studies together to identify the next steps for the Columbia Basin.

We have advanced knowledge about the river. We have learned how threatened and endangered species use the estuary. We have surveyed the entire 630 miles of shoreline of the lower river and classified landscapes and functions to more strategically restore critical habitat. We have completed an assessment of needs for dredge material disposal at twelve lower river ports.

The planning has been done. Several regional plans have been completed, unified and updated.

- Lower Columbia River Estuary Partnership Comprehensive Conservation and Management Plan (*1999, updated 2001 and 2009*)
- Columbia River Basin Toxics Reduction Action Plan (*EPA 2009*)
- Water Quality in the Willamette Basin, Oregon, 1991-95 (*USGS 1998*)
- Water Quality in the Yakima River Basin Washington, 1999–2000 (*USGS 2000*)
- Water Quality in the Upper Snake River Basin Idaho and Wyoming, 1992-95 (*USGS, 1998*)
- Federal Columbia River Power System Biological Opinions. (*NOAA 2000, 2004, 2008*)
- Northwest Power and Conservation Council Fish and Wildlife Lower Columbia Province Plan (*2004, 2008*)

- NOAA Recovery Plans: Columbia River Estuary Recovery Plan Module for Salmon and Steelhead (2010), Middle Columbia River Steelhead Recovery Domain, Upper Columbia Recovery Domain, Snake River Domain, White Salmon Domain
- Oregon, Washington and Idaho State Recovery Plans

All the actions identified in each planning process, even with all emerging science, call for reducing hydro system effects, restoring habitat, addressing toxic contaminants, slowing the introduction of non-native species, reducing predation, and managing uncertainty.

We have the regional collaboration and a fifteen year track record of working together across political boundaries with federal, tribal, state, local, industry, agriculture, fishing and recreation interests using ecosystem performance based management to assess how we are doing. EPA has brought together hundreds of stakeholders in the middle and upper Basin to define an action plan. The planning and the research are done. With EPA as the lead partner, the Estuary Partnership gives EPA the organizational structure and capacity to complete the work in the lower river and link this work with EPA's efforts in the middle and upper Basin.

We have the infrastructure in place. The Estuary Partnership was created by the Governors and EPA, under Congressional authority in the Clean Water Act, to bring the lower region together to coordinate and work more effectively.

The Estuary Partnership is a National Estuary Program (NEP) accountable to EPA and Congress and the States. It is regulated by section 320 of the Clean Water Act. All NEP's must have a community based stakeholder management authority. An NEP is not an office of employees; it is a government-sanctioned body of local stakeholders that typically hires a staff to support it. The group must develop a Management Plan based on science that the region agrees to; it must contain actions to improve the ecosystem. An NEP must raise funds for its partners and use those funds to support local needs and fill gaps. It reports annually to EPA for habitat acres restored, funds leveraged and an overall program progress report as well as annual financial reporting. It also undergoes an extensive review every three years in which all aspects of the program are scrutinized by EPA. EPA must then report these findings to the Office of Management and Budget and Congress. In delivering projects, the Estuary Partnership often disperses funds and complete projects more cost effectively and can be more responsive to changing issues and community needs. The Estuary Partnership Science Work Group includes over 40 technical experts from the public and private sector who guide Estuary Partnership habitat and toxic reduction activities. Taking advantage of the technical expertise or the coordinating functions of the Estuary Partnership reduces competition, streamlines reporting, reduces multiple and duplicative lines of communication and makes a more unified region. This bill leaves the Estuary Partnership, the NEP, as currently defined and working, intact.

A similarly structured process in the middle and upper Basin that is codified in the bill would help ensure that all interests are considered and the programs focus on voluntary efforts.

Unifying the efforts in the Basin is important, but because of the vast geography and different local issues, it would be difficult for one group to effectively manage the entire Basin. Connecting the lower river NEP with the EPA middle and upper group will maintain the community driven ('keep it local') hallmark of the NEP while ensuring both efforts are advancing the same goals and objectives. Language could be inserted in the bill that would require EPA to be charged with ensuring coordination between the two groups. Keeping the two efforts separate but coordinated will support the momentum of each and will allow each to be more responsive to local needs. That is how the Estuary Partnership and EPA's middle and upper Basin efforts have been working to date through the Columbia River Toxics Reduction Work Group.

We want to keep the NEP moving forward and suggest overlapping membership in the stakeholder bodies and adding a task to the EPA team duties to ensure that the two remain as connected as they currently are.

Vesting the team with the duties prescribed will remove concern about centralizing too much authority with one EPA employee.

The infrastructure and partnerships are in place because of the fifteen years of Estuary Partnership work along with EPA's Columbia River Toxics Reduction Work Group efforts of the last four years; no funds need to be expended to do the planning or to set up processes or to reinvent efforts that have already been proven successful and are ready to get to clean up actions.

EPA uses the Estuary Partnership to assist and implement lower river actions. EPA recognizes the Estuary Partnership as the leader in efforts in the lower river and estuary, through its designation as an NEP. Rather than disrupting or changing the structure or restart the effort of a functioning body, EPA is using its model as a collaborative stakeholder process in the work in the middle and upper Basin. The EPA Action Plan is Basin-wide, it incorporates the lower river and the Estuary Partnership's monitoring strategy and work – it is all consistent. The working group includes the Estuary Partnership; there is a lot of coordination and collaboration. Language could be included in the bill to formalize this. The Estuary Partnership work helps inform EPA's work and the Estuary Partnership Management Plan is updated as the Basin effort advances. While unifying the Basin and removing artificial separations is important, it could make implementation cumbersome and efforts in the lower river may be slowed if both efforts now had to pause and be restructured. The region is ready to see progress.

There has been investment to restore habitat and reduce toxics in the Columbia Basin, but it is less than a few million dollars a year and focused on habitat restoration or one time isolated studies. The magnitude of the problems exceeds what this level of investment can accomplish. **Oregon and Washington invest heavily in the Willamette River Basin and Puget Sound. The Columbia does not share that level of financial support, particularly for toxics reduction.**

The problems are big, they have taken decades to reach this point; they come from not one individual action, not one industry, not one community, not even one state. The problems are the results of hundreds of different sources and hundreds of different activities that have occurred over a very long time and move over time. They cannot be corrected in one or two years with short term, small monies, section by section.

Despite knowing the extent of the problems, **there is no sustained monitoring on the mainstem Columbia and no concentrated toxic reduction efforts.** In fact, in the past fifteen years, as we have learned more about the extent and levels of contaminants throughout the Basin, we invested less and less and measured fewer and fewer sites. There is now just one site on the lower river that is monitoring consistently. Scientists and community leaders have determined that a minimum of 29 sites is needed to give an accurate assessment.

We cannot target reduction activities without monitoring contaminants. We are unable to assess the impact of contaminants on fish and habitat used by fish or to evaluate effectiveness of habitat restoration projects. There are no resources to remove contaminants, measure changes over time or assess how they move in the system. We do not know their full impact on human health or the survival of threatened and endangered fish.

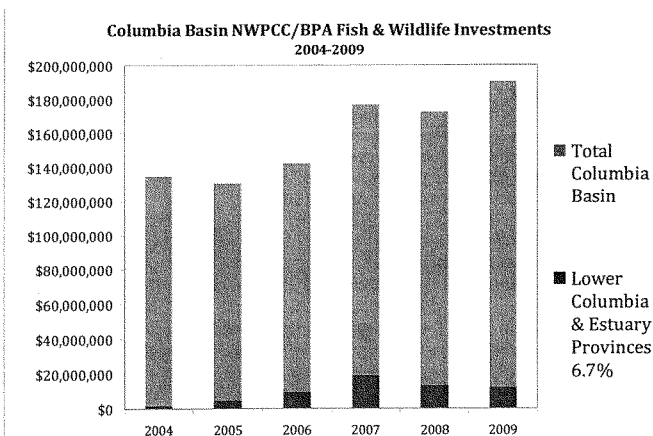
We Know What We Need to Do

- **Collect and analyze samples from water, sediment, salmon, river mammals, and birds at the same locations at regular intervals over time to get a comprehensive picture of contaminant sources and patterns.** This includes measuring over 130 emerging contaminants (such as estrogen compounds and personal care products); approximately 50 commonly used insecticides, herbicides and fungicides; banned agricultural chemicals; over 130 moderately used pesticides; nearly 20 trace elements (including mercury and lead); and PCBs, PAHs, and flame retardants.

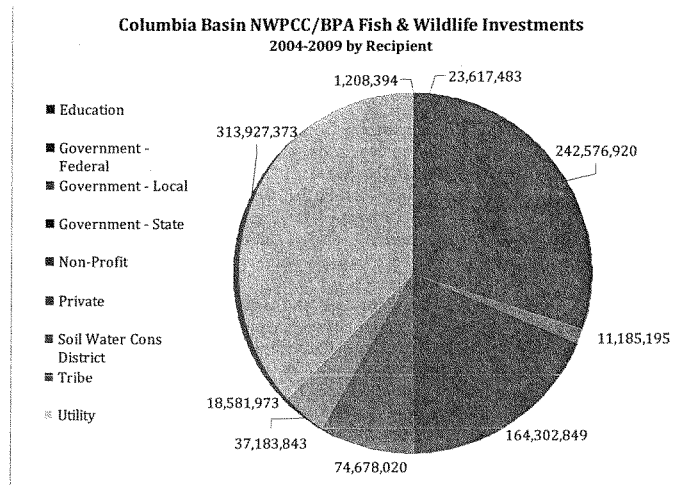
- **Expand agricultural toxics reduction activities.** Provide financial assistance and technical support to farmers, ranchers, soil conservation districts, and watershed councils to install best management practices to reduce soil erosion and toxics into the Columbia River.
- **Expand pesticide stewardship take back programs.** Collect pesticides and other waste to ensure proper disposal of pesticides, solvents, batteries, electronics, and PBDE-containing materials to licensed hazardous waste facilities. Previous programs in Oregon, Washington and Idaho have recovered toxic chemicals, including thousands of pounds of DDT, banned in the 1970's.
- **Expand mercury collection events.** Provide the public with safe disposal options for excess mercury and mercury containing products. There is a special need for these work efforts on tribal lands. Each year, the emergency response unit in EPA responds to one or more elemental mercury releases, often in schools or households.
- **Conduct pharmaceutical collection events.** Collect unused pharmaceuticals to keep from entering water bodies. Pharmaceutical collection also helps prevent accidental poisonings and teen access to these drugs.
- **Develop consumer education and information.** Certain ingredients in personal care products cause hormone disruption in fish. Providing consumers, especially high risk populations, with information can help keep some of these contaminants out of the system.
- **Evaluate the habitat restoration projects to ensure fish are using habitat.**
- **Create a dredge material disposal and sediment plan.** Dredging is needed to allow ports to maintain activities that directly impact local economy.
- **Implement habitat restoration projects.** Increase the number and quality of restoration projects for recovery of threatened and endangered species.
- **Hire technical experts for local watershed councils and local governments.** Provide technical assistance to local entities and habitat restoration partners who are unable to afford it. (Engineering, geotechnical, soils, hydrology, and other technical skills required to scope, design, and build large, complex restoration projects.)

Investing in the Lower River and Estuary

The investment in the lower river has lagged even more than the rest of the Basin. The 40% minimum for the lower river and estuary for the five years will help build equity in addressing the issues. The lower river and estuary is the smaller segment and it does generate a significant share of its problems, but contaminants



from throughout the Basin end up in the lower river and estuary. Yet investment in the lower river and estuary has never reached anywhere near the level of investment in the other segments. For decades, significant investment has been made in the middle and upper Basin, notably by the Northwest Power and Conservation Council and Bonneville Power Administration. Between 2004 and 2009, they invested \$877,300,000 in the Basin but only 6.7% of those total funds were invested in the lower river. The Army Corps has invested approximately \$2,000,000 annually since 2002. These are the only major investments. Projections for the next ten years are similar, with the addition of the funds in the BPA Tribal Accords that will bring an additional \$917,000,000 to middle and upper Basin investments.



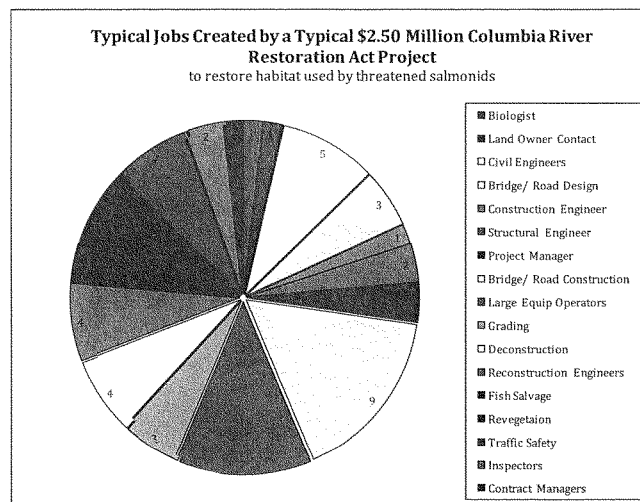
The need in the lower river is critical. The emphasis for the five years proposed in this bill would help make up for the historic lack of funding to the lower river and estuary. Calling it out specifically helps ensure that while the Basin is addressed, the estuary needs are not diluted. This lack of focus on the lower river and estuary and on contaminant reduction needs to be reversed. Every ESA threatened and endangered salmonid in the entire Basin uses the lower river and estuary during part of its life cycle; first as juveniles traveling to the ocean and as adults returning to spawn. Every single ESA listed salmonid in the Basin needs a healthy estuary. The fish are contaminated, the water column and sediment – their habitat – are contaminated and they have half the habitat they had in 1880.

Funds to the Estuary Partnership. The money that would come to the Estuary Partnership does not stay at the Estuary Partnership; it goes out to local conservation entities, local, state, tribal governments, and watershed councils. The Estuary Partnership itself would use about 6% for Estuary Partnership led projects. While many things have changed in the lower river, the Estuary Partnership's essential purpose and mission have not. Our leadership and advocacy for the river are critical to secure funds for the region and ensure that these resources are strategically invested in our partners to advance on-the-ground and scientific goals. We facilitate the development of innovative approaches, enhance collaboration and regional solutions and advance the latest scientific information for the region.

Cost Share. The 75% federal share contemplated in this bill is essential; the cost of monitoring and clean up or reduction actions is substantial and it would be very difficult for local entities and tribal governments to provide a higher local cost share. If we weren't able to secure the cost share, all the momentum would be lost and nothing would progress beyond where we are today.

Investing Federal Tax Dollars: Economic Impact

The Columbia River is a federal navigable waterway and a shared resource. It is a multi-state, international shipping channel. There are six tribes with treaties in the Columbia River. Addressing habitat loss and toxic contamination bolster the local economy by immediately keeping all ports operational, supporting jobs for technicians, fishers, boat crew, maintenance specialists, law enforcement officers, construction engineers, construction laborers, large equipment operators, contractors for bridge and culvert replacement, watershed ecosystem experts, fisheries biologists and foresters. It gives financial assistance and technical support to farmers, ranchers, soil conservation districts, and local watershed councils to install best management practices, reduce soil erosion and toxics. These projects open a market for local supplies and services for equipment, plant stock from local nurseries, lumber, soil, rock, road building materials. The multiplier effect of all these jobs on our economy is vital. They are citizens paying taxes, buying groceries, paying mortgages.



Future economic benefit is achieved by protecting navigational jetties, fishery habitats and beaches from ongoing erosion. Keeping contaminants out of the system is more economical than clean up.

The Columbia

Twice the US EPA has acknowledged that addressing ecosystem degradation in the Columbia River is a national priority. First designating the lower Columbia River and estuary an estuary of national significance in the National Estuary Program in 1995 and in 2006 elevating the entire Columbia River Basin to the status of a Great Water Body (now called Large Aquatic Ecosystem). The Columbia River Basin joined the Great Lakes, Lake Champlain, Long Island Sound, Chesapeake Bay, Gulf of Mexico, South Florida Ecosystem, San Francisco, Pacific Islands and Puget Sound.

The Columbia Basin is the only one of now two Large Aquatic Ecosystems to receive no appropriations pursuant to this designation. (The Pacific Islands was recently added and it also receives no funding.) The importance of the Columbia to the nation's economy alone is in the billions. We have worked for many years to raise the understanding about the Columbia beyond the Basin. The need could not be clearer.

This authorization meets five federal priorities: EPA's targets for toxics reduction and habitat restoration; USGS National Water-Quality Assessment Program; the West Coast Governors' Oceans Agreement; the Federal Columbia River Power System Biological Opinion; and NOAA Recovery Plans. It also implements key actions in Salmon Recovery plans in Idaho, Washington and Oregon.

In 1987, Congress took the bold step of creating the NEP to protect and restore estuaries around the nation that are important for their economic, environmental and cultural significance. Even bolder was how it was shaped. It was to be locally driven, to cross established political boundaries, to convene diverse interests, to use science and to get actions on the ground that would improve this ring of estuaries. It was to acknowledge local thinking—empower citizens to engage, take responsibility and be accountable to future generations. And it got results. In the Columbia Basin, we have extended this approach to all the geographies of the Basin because the river system does not stop at a dam and the NEP process works. It is tested and trusted. It gives a comfort level and assurance; using a parallel process in the middle and upper Basin will help unify the efforts by using the same terminology and processes.

We can solve the Columbia River problems. Whether we intended to or not, we created these problems. We have the plans, the science, the collaboration and the track record to now remove them. This authorization holds us accountable and gives us the opportunity to leave a legacy to our children and grandchildren of which we can be most proud. It is long overdue.

Thank you for the opportunity to speak in support of the Columbia River Restoration Act. Thank you for your leadership in protecting the nation's estuaries of national significance and its great water bodies.

I would be glad to answer any questions you may have.



TESTIMONY OF REPRESENTATIVE JACKIE SPEIER

**Before the Committee on Transportation and Infrastructure
Subcommittee on Water Resources and Environment**

April 28, 2010

Chairwoman Johnson, Ranking Member Boozman, and respected members of the committee, thank you for giving me the opportunity to speak here today about the need for legislation to protect one of America's great bodies of water, the San Francisco Bay Estuary.

I was born and raised on the San Francisco Peninsula, and I have lived my entire life in the Bay Area. I count all of us who live by the Bay uniquely blessed with one of the most beautiful places to live in the country. However, having lived there through periods of great industrial and residential development – much of which has benefitted the Bay Area economy – I can also say that we now stand at a crucial turning point for the Bay's health.

San Francisco Bay is an economic engine for the entire world. It is a center of world trade and a gateway for goods from around the Pacific Rim. The Bay Area is also a beacon for the kind of ingenuity and groundbreaking discoveries that revolutionize the way we live, from advancements in medicine and biotechnology, to clean energy and environmental sustainability. According to recent estimates, the Bay Area generates more than \$370 billion in goods and services annually, and is home to three and a half million jobs, which contribute greatly to the nation's skilled workforce.

Underlying the tremendous economic importance of the Bay Area, however, is a population of over seven and a half million people, most of whom live within five miles of the Bay itself. Our progress has come at significant cost to the ecosystem upon which we depend. Today, much of the San Francisco Bay Estuary is under threat from pollution, invasive species and habitat loss.

Over 90 percent of the Bay's wetlands are now gone, and the size of the Bay has been reduced by over one third. In-fill and development have polluted the water and diminished fish and wildlife in the Bay, which is now home to over 100 threatened and endangered species. Over 40 percent of California drains through the Bay into the Pacific Ocean, taking a large amount of toxic runoff with it, contaminating water and air quality, and consequently threatening public health, tourism and recreation.

We also face the urgent need to adapt to climate change. San Francisco Bay is especially vulnerable to sea-level rise, and maintaining its wetlands is a top priority. Mid-range projections

for sea-level rise will put San Francisco International Airport, shoreline communities and other development underwater. The projected cost of such a sea-level rise to infrastructure and property is estimated at more than \$60 billion. We in the Bay Area are living on the edge; the decisions we make today will help the Bay flourish, or leave it to the mercy of both man-made development and a rapidly changing planet.

That is why I am proud to have introduced H.R. 5061, the San Francisco Bay Improvement Act of 2010, legislation that authorizes \$100 million annually for 10 years to the Environmental Protection Agency to fund San Francisco Bay restoration. I believe this legislation provides a responsible roadmap forward to preserve and protect this vital natural resource.

The important needs of the Bay have been well-documented but underfunded for many years. Increased federal funding is crucial to the federal, state and local partnership charged with restoring San Francisco Bay, and will build on our strong track record of efficiently leveraging non-federal resources. My bill also gives EPA direct oversight of this federal investment, and ensures that any new funding is accountable to the master plan Congress set out for the Bay over 20 years ago.

I am grateful to my colleagues from the Bay Area who have joined me in introducing this legislation. We are all in this together because we know that protecting San Francisco Bay is a win-win for our economy and our environment, and because it is the right thing to do. I am confident, with federal support, that we will get the job done for this and future generations.

Thank you.

**Testimony of
Nancy Stoner, Deputy Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
before the
Subcommittee on Water Resources and Environment
Committee on Transportation and Infrastructure
U.S. House of Representatives**

April 28, 2010

Good afternoon Madam Chairman and members of the Committee, I am Nancy Stoner, Deputy Assistant Administrator for the Office of Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss two large aquatic ecosystems – the Columbia River Basin and the San Francisco Bay – and the EPA programs that work to protect and restore them.

We've long known that large aquatic ecosystems are among the most ecologically valuable and productive habitats on earth. These ecosystems foster a wonderful abundance and diversity of wildlife like shore birds, fish, crabs, marine mammals, shellfish, and sea birds. Our estuaries and rivers function as the feeding, spawning, and nursery grounds for many marine and terrestrial finfish, shellfish, birds, and plants, supporting unique communities of plants and animals that are specially adapted for life in these ecosystems.

These areas are also dynamic economic engines for many activities vital to the Nation, including sport and commercial fisheries, agriculture, transportation, recreation, and electrical power generation. However, many of these same activities have disrupted

natural processes and impaired water quality in some areas to the point where human health is at risk and ecosystems and the plants and animals that depend on them are threatened. Recent studies and monitoring programs have found a number of troubling problems, including significant levels of toxic chemicals in fish and the waters they inhabit such as DDT, PCBs, mercury, PBDEs and other toxic flame retardants, as well as nutrient over-enrichment that leads to hypoxic or low oxygen conditions - resulting in subsequent loss of marine life.

EPA's current programs for these large aquatic ecosystems (LAEs) play a substantial role in addressing these and other environmental problems. For example, the Columbia River Basin LAE convened a collaborative watershed group that assessed the ecosystem as a whole and, in 2009, produced the Columbia River Basin *State of the River Report for Toxics* that identified priority problems, monitoring gaps, and toxic reduction lessons learned. The San Francisco Bay LAE increased the effectiveness of EPA's regulatory programs to protect wetlands and improve water quality through strategic targeting of resources and continued support for wetlands restoration, TMDL development, stormwater permitting, and State/Federal partnerships to address San Francisco Bay-Delta resource concerns. However, serious environmental challenges remain.

Overview of EPA's Large Aquatic Ecosystem Programs¹

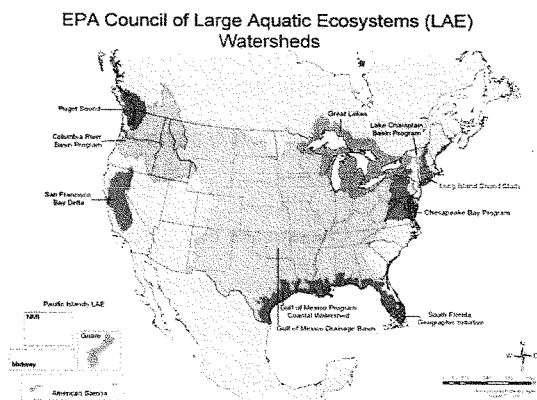
Improved protection of the Nation's large aquatic ecosystems has long been a theme of several major reports and studies. For example, the National Research Council recommended in 1992 that "a large-scale aquatic ecosystem restoration program...should be implemented to regain and protect the physical, chemical and biological integrity of surface water." In 2007, the National Academy of Public Administration published a report recommending "making large scale ecosystem restoration a national priority." EPA's *Strategic Plan: 2006 – 2011*, provides for a significantly expanded effort to protect large aquatic ecosystems as a complement to the implementation of core, national water quality programs.

EPA has established LAE programs for 10 areas: Chesapeake Bay, Columbia River, Great Lakes, Gulf of Mexico, Lake Champlain, Long Island Sound, Pacific Islands, Puget Sound–Georgia Basin, South Florida Ecosystem, and the San Francisco Bay-Delta Estuary. These LAE programs are a unique partnership between EPA and numerous federal, state, and local organizations working together to address large-scale watershed management challenges. EPA convenes the LAE Programs and provides leadership and other support to help involved stakeholders address some of the Nation's most complex threats to water resource management, such as nutrient overloading, stormwater flow and toxic sediments. EPA's *Strategic Plan* describes

¹ More information on Large Aquatic Ecosystem Programs is available at epa.gov/owow/oceans/partnerships/large_aquatic.html.

environmental goals and measures of progress for each large aquatic ecosystem.²

EPA's Office of Water has also established a national *Council of Large Aquatic Ecosystems* made up of EPA senior managers. Key goals of the Council are to encourage the exchange of best management practices, improve coordination between large aquatic ecosystem programs and core national water programs, strengthen links between ecosystem programs and the EPA Strategic Plan and budget, and focus EPA research on the top priority needs of these ecosystem programs.



Overview of Columbia River Basin and San Francisco Bay: Challenges, Priorities, and Legislation

Columbia River Basin Challenges and Priorities

² For more information, see epa.gov/ocfo/plan/2006/goal_4.pdf.

The Columbia River Basin program (CRBP) covers a major portion of North America including parts of seven U.S. States and British Columbia. The basin provides drainage through an area of more than 260,000 square miles into a river near 1,200 miles in length. The Columbia River Basin provides an important North American backdrop for urban settlement and development, agriculture, transportation, recreation, fisheries and hydropower. The Columbia River Basin's unique ecosystem is home to many important plants and animals. Columbia River salmon and steelhead runs were once the largest runs in the world, but are now threatened and endangered in large part due to habitat and water issues including toxics. The tribal people of the Columbia River have depended on these salmon for thousands of years for human, spiritual, and cultural sustenance. Salmon restoration together with toxics reduction in the Columbia River Basin is a key environmental justice issue for EPA.

The goal of the CRBP is to protect public health and the environment by reducing the occurrence of toxics in fish, water, and sediment within the Columbia River Basin by: increase the actions taken to reduce toxics; and implement a collaborative monitoring and research strategy to understand toxic loads, emerging contaminants of concern, and overall ecosystem health. This program is a collaboration among EPA, the states of Oregon, Washington, Idaho and Montana, Columbia Basin tribal governments, the Lower Columbia River Estuary Partnership, local governments, citizen groups, industry, and other federal agencies.

While the actions described above have resulted in some progress, much work remains.

The CRBP has identified the following priorities that need urgent attention:

- Strengthening water quality standards to protect tribal members and others who eat a large amount of fish from the Columbia River;
- Long term monitoring for the Columbia River Basin with an emphasis on emerging contaminants, including toxic flame retardants (e.g., PBDEs) and pharmaceuticals;
- Integration of Columbia River Basin salmon recovery efforts with toxics reduction;
- Enhanced agricultural partnerships to reduce sediment and pesticide loadings as well as more assistance to farmers in more sustainable practices; and
- Increased application of EPA's *Green Chemistry* and *Design for the Environment* program concepts within the Basin to address pollution prevention.

Columbia River Basin Legislation

Congressman Blumenauer's bill (H.R. 4652) would require the Administrator to appoint a team leader in EPA's Region 10 who would coordinate support for the development and implementation of projects to protect and restore the Columbia River Basin. The bill would authorize appropriations of \$40,000,000 for each of the fiscal years 2011 – 2015. His proposed legislation is consistent with EPA's commitment to the Columbia River Basin and our programmatic goals for the Basin as identified by the Columbia River Basin Program.

San Francisco Bay Challenges and Priorities

The San Francisco Bay-Delta Estuary is the largest estuary on the West Coast of North America. Its 4-million acre watershed covers more than 40% of California and includes the drainage basins for the Sacramento and San Joaquin Rivers, the Sacramento-San Joaquin Delta, and the San Francisco Bay. San Francisco Bay is the defining natural feature that makes the Bay Area a unique and beautiful place to live. Of national renown, the Bay is valuable not only for its aesthetic qualities, but also for the critical habitat it provides for native and migrating fish and waterfowl, its moderating effect on the local climate, the recreational opportunities it affords, and the tourist, trade and fishery economies it supports. While my comments today primarily address San Francisco Bay, I want to acknowledge that EPA is also working to address challenges throughout the larger Bay-Delta Estuary, including degraded water quality, sharp declines in fisheries, and competing water needs. I want to assure you that EPA is committed to providing leadership in a reinvigorated State/Federal partnership to balance agriculture, urban, and environmental water needs.

San Francisco Bay is confronted by a wide range of challenges to sustain its many valuable functions into the future. Rapid and unplanned urban development is resulting in greater pollutant loadings to the Bay; legacy pollution (pesticides, PCBs, and mercury) and new emerging contaminants limit the ability of the Bay to support a thriving food web; 95% of the Bay's historic wetland habitat has been lost; and an aging

(and often unseen) wastewater infrastructure can release sewage and other pollutants into the Bay and its tributaries.

To address these challenges EPA is working on a broad range of activities that include:

- strengthening implementation of the San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan (CCMP) by supporting its new strategic plan;
- reducing urban runoff impacts on water quality through more effective stormwater permitting and enforcement;
- creating incentives to utilize low impact development techniques ;
- implementing a competitive grant program to improve water quality and restore the San Francisco Bay watershed;
- increasing the effectiveness of regulatory programs to protect wetlands and streams, while continuing to support restoration of wetlands acreage;
- supporting the California Water Boards in implementing their plans to review and improve water quality standards; and
- supporting studies that prepare for the effects of climate change.

While the measures described above have resulted in some progress, the health of the Bay is at a crossroads. For example, much of the Bay Area's wastewater infrastructure was built several decades ago and needs repairs or replacement. In 2008 alone, the Bay was subject to more than 2,000 raw sewage spills. EPA's priority is to build on the

strong collaboration among Bay Area business, civic and environmental leaders to make significant progress in restoring and protecting this world class resource.

San Francisco Bay Legislation

Congresswoman Jackie Speier's bill (H.R. 5061) would establish in EPA Region 9 a San Francisco Bay Program Office that would coordinate the implementation of efforts to restore San Francisco Bay and authorize approximately \$100 million annually over 10 years to the U.S. Environmental Protection Agency to fund efforts to restore San Francisco Bay. Her proposed legislation is consistent with EPA's commitment to San Francisco Bay and implementing the San Francisco Estuary Partnership's CCMP.

Relationship to EPA's National Estuary Program (NEP)

The National Estuary Program was established by section 320 of the Clean Water Act Amendments of 1987, with a mission to protect and restore nationally-significant estuaries. The NEP currently includes 28 programs, located along the Atlantic, Gulf of Mexico, and Pacific coasts. EPA is fortunate to have excellent, long-standing collaborative relationships with both the Lower Columbia River Estuary Partnership and the San Francisco Estuary Partnership. Efforts to expand needed support for these significant large aquatic ecosystems should be carefully reviewed to ensure that they effectively build upon existing efforts.

Conclusion

EPA is committed to protecting America's waters. The Columbia River Basin and San Francisco Bay programs discussed in this testimony are a critical part of EPA's strategy to address the threats to our Nation's waters. . They are effective, efficient, collaborative, and they have demonstrated the value of partnering to achieve environmental results. However, while some progress has been made, much work remains to be done. The legislation is consistent with EPA's commitment to protect and restore the San Francisco Bay and Columbia River Basin. I would be happy to answer any questions you may have at this time.



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TESTIMONY

Bay Area Council

Before the House Subcommittee on Water Resources and Environment

“Protecting and Restoring America’s Great Waters, Part II: The Columbia River and San Francisco Bay.”

Presented By:

Jim Wunderman
President and CEO
Bay Area Council

Wednesday, April 28 2010

Madam Chairwoman Johnson, and honorable members of the Committee, thank you for the opportunity to speak to the Subcommittee on the importance of the San Francisco Bay Estuary. I am Jim Wunderman the President and CEO of the Bay Area Council, which represents 275 of the largest employers in the nine county San Francisco, Oakland, Silicon Valley Bay Area.

My testimony today will address the importance of one of most famous Bays in the world, and a region that serves as the fourth most important global business center after New York, London, and Tokyo.¹ I will discuss how the Federal Government can partner with this region to ensure the estuary environment is protected and remains a valuable resource for commerce and trade.

The San Francisco Bay Estuary and its watersheds are national treasures that contribute to the federal, state, and local public health and economic vitality. It is the largest estuary on the West Coast of the United States.

Aesthetically and geographically it provides the distinguishing natural feature of the San Francisco Bay Region. The economic power and charm of the Bay Area are derived from this feature. Valuable property for commerce (airports, shipyards, access to freeways) and residential areas are adjacent to the Bay and overlook its beauty.

The San Francisco Bay Area economy – leading industries are drawn to the Bay environment and its quality of life.

The Bay Area's high quality of life is anchored in its beauty, mobility, and unique natural features. It is impossible to quantify all of the Bay's contributions to the economic productivity of the region and its people. The San Francisco Bay Estuary is the centerpiece to attractive communities and a highly creative, educated and skilled workforce that choose to live in the Bay Area because of its special character. Knowledge-based employment in the Bay Area surpasses that of most peer cities such as New York, Austin, and Los Angeles.² According to the U.S. Bureau of Labor Statistics, the Bay Area has a higher share of innovative jobs than California and the U.S.

The Bay Area generates more than \$373 billion in goods and services, or over 3% of the country's total GDP. The Bay Area's per capita growth was greater than the national average for the 2003- 2008 period measuring 4.5% annually vs. 4.3% annually for the nation.³

¹ Recession and Recovery: An Economic Reset, Bay Area Economic Profile, April 2010 (Seventh in a Series) by Bay Area Council Economic Institute.

² BLS; Occupational Employment Survey; team analysis.

³ U.S. Bureau of Census (BOC); U.S. Bureau of Economic Analysis (BEA).

Please consider some statistics and facts that define the unique character of the Bay Area. We strongly believe that preserving and enhancing the region's central and most distinguishing environmental feature is critical to maintaining and building upon these strong economic attributes, which in turn help the United States remain competitive in the global economy:

- The Bay Area ranks 25th in the world among national economies ahead of Austria and behind Norway.⁴
- The Port of Oakland is the fifth largest container shipping port in the United States.
- Through its main port in Oakland, eight smaller ports, and three international airports, the Bay area handles nearly 30 percent of all West Coast trade.
- By itself, San Francisco International Airport is the country's ninth largest and the world's fourteenth busiest airport.
- With the San Francisco Bay and its iconic Golden Gate Bridge, Alcatraz, the Ferry Building, Fisherman's Wharf, Jack London Square, the wine country of Sonoma and Napa Valley that adjoin the North Bay - the Bay is a big draw for tourists and revenue for the area. Tourism in fact plays a large part in the Bay Area economy. As of 2008, tourist expenditures accounted for \$8.5 billion derived from 16.4 million visitors.⁵ Much of that tourism derives directly from the Bay and its environs.
- San Francisco Bay is a primary hub for sailors because of consistent strong westerly/northwesterly thermally-generated winds, and protection from open ocean swells. Subsequently the region has attracted many of the world's top sailors and is the venue for numerous regattas. At a press conference following the 2010 America's Cup Race, Larry Ellison, on behalf of his BMW Oracle Racing team, named San Francisco as one of only a handful of cities around the world as a possible venue for the next race.
- Commercial fishing remains an important regional industry, and has been increasingly threatened by substantial environmental pressures which will be discussed in more detail below.

The Bay Area is the seat of a vibrant innovation and Cleantech economy:

- In the East Bay, the University of California, Berkeley received \$500 million in investment from British Petroleum to develop advanced materials for energy production.
- In San Francisco, the Biotech and Energy sectors have joined forces to create living systems that produce energy as efficiently as nature, so that the energy can be harvested with the highest efficiency. (South San Francisco and Mission Bay, San Francisco with considerable research activity centered around the University of California, San Francisco)

⁴ Global Insight; BEA; Moddy's Economy.com team analysis. and Bay Area Economic Profile, 2010, Exhibit 2, p.3.

⁵ San Francisco Convention and Visitor's Bureau; Federal Reserve Board, team analysis, Bay Area Economic Profile, 2010, p.59.

- In Silicon Valley and along the Peninsula, nanotechnology is linking the best information technology production of integrated circuits to produce new and more efficient forms of solar energy. Stanford University is the educational hub of much of this activity.
- In the northeastern section of the Bay Area, there is a cluster of transportation firms focused on bio-fuels and electric cars (the University California, Davis has an active program and institute to promote innovation and energy efficiency in the transportation sector, buildings, and in all aspects of society.)
- A regional pilot project is testing the latest water desalination technology.

Investors are drawn to the innovation economy of the Bay Area

- The Bay Area Business community is the leader in innovative business practices and technology developed and used to address global climate change and reduce greenhouse gas emissions.
- Clean tech is an important engine for economic and job growth in the Bay Area.
- The Bay Area claims one-third of U.S. and one-fifth of total global venture investment.⁶
- California receives more than half (57%) of U.S. venture capital invested in cleantech.⁷ Moreover, nearly half of the U.S. -based cleantech firms are in the Bay Area.⁸
- Clean energy jobs account for a larger share of jobs than in the U.S. overall.⁹

The need to improve the San Francisco Bay Estuary

As a natural resource, the San Francisco Bay is home to more than 100 endangered species. The natural shoreline habitat, tidal and seasonal wetlands are part of the Pacific coastal resources of the United States.

Despite noble efforts, the health of the San Francisco Bay estuary is diminishing. The fresh water balance within the estuary is critical to the ecosystem and is fed by 40% of all the rain and snowmelt runoff in California.

- In part this drainage has brought with it pollution, invasive species and a loss of wetland habitat.
- Many of the water bodies connected to the Bay are impaired by trash, heavy metals, PCBs, pesticides, as well as by contaminants from storm water discharge, agricultural run-off, and sewage treatment.
- More than 90 percent of the shoreline wetlands of the San Francisco Bay have been destroyed by diking, and filling, and reduced by development.

⁶ S& Capital IQ, team analysis. Bay Area Economic Profile, 2010, p. 31.

⁷ CA Innovation Index 2009, Next 10; Cleantech Group tm LLC, Collaborative Economics, team analysis, Bay Area Economic Profile, 2010, p.30.

⁸ Cleantech Group's global top 100 cleantech companies; 2009, team analysis, Bay Area Economic Profile, 2010, p. 29.

⁹ Pew's The Clean Energy Economy Report, 2009. team analysis, Bay Area Economic Profile, 2010, p.29.

- Dramatic change in the San Francisco Bay Estuary demands greater federal attention. The supply of fresh water into the San Francisco Bay, a defining characteristic of an estuary, is under stress due to the growing population. This urban and agricultural need for large quantities of water, climate change impacts on the snowpack supply of water, and water flow changes linked to storage and conveyance of this water, have significantly stressed the ecosystem.

Bay Area Council supports federal investment and resources to improve the San Francisco Bay Estuary

The San Francisco Bay Estuary needs support from the federal government, especially in help that is coordinated with state and regional agencies to protect and improve this national treasure. Not unlike the Florida Everglades, the San Francisco Bay Estuary deserves the full involvement and investment of the federal government. The federal government has substantial interests in the San Francisco Bay Estuary, including:

- A large navigable waterway used for commerce, including the fifth largest container ship port protected by laws protecting interstate commerce.
- The largest West Coast estuary providing a water habitat for 100 federally protected endangered species.
- Significant coastal, tidal, wetlands and water resources used and appreciated by a large urban population of the Pacific coast
- More than 36,000 acres of San Francisco Bay shoreline is publicly owned and planned for restoration to tidal marsh at an estimated cost of \$1.43 billion over the next 50 years.

The Florida Everglades receive substantial support from the federal government in a 50/50 partnership with Florida for a \$10.9 billion 30-year comprehensive everglades restoration plan.

The Bay Area Council thinks the following areas are priorities for federal government funding and support:

1. The San Francisco Estuary Partnership (SFEP), in partnership with the San Francisco Bay Conservation and Development Commission (BCDC) should continue to collaborate with the EPA's Office of Research and Development and ecological vulnerability assessment under EPA's Climate Ready Estuaries (CRE) Program.

The goal is to provide place-based information on the potential implications of climate change for estuarine ecosystems and processes, in a form that will enable managers to undertake adaptation planning. This work should include development of maps and guidelines that can be used effectively by planners to take adaptive management actions to address sea level rise and other impacts of climate change.

As a member of the California Adaptation Task Force, a group who has focused on the potential impacts of Sea Level Rise, it is clear this is an area that needs immediate attention. The economic value and use of land adjacent to the Bay should be incorporated into the analysis of action that needs to be taken to protect public health

and enable a prosperous economy to thrive in the Bay Area. The maps should be made in such a way as to depict likely scenarios with the most updated information. Funds for continued monitoring and updating of information regarding the San Francisco Bay Estuary should be a part of this project. Land use planners and developers should be able to rely on this information for planning, and be able to strategically guide where development is appropriate. Wise development can help achieve other significant environmental goals like reducing greenhouse gas emissions and vehicle miles traveled.

2. Given the limited amount of federal money, like with the Florida Everglades and the Presidio Trust in San Francisco, we strongly support public private partnerships for the restoration and redevelopment of areas that benefit both the community and the environment. There are projects in various stages of development that can leverage private funding for the transformation of polluted industrial sites into new wetlands, jobs, and much needed workforce housing in transit-rich job centers. This balanced approach will ensure that we are able to maximize the leverage of federal funding to achieve these common civic and environmental goals.
3. Flood plain maps developed by the federal government should be updated to include the impacts of sea level rise, storm surge and severe weather events.
4. Improvements should be made to increase rapid response to any type of oil spill and natural disaster that may occur in the San Francisco Bay Estuary. The Bay Area has experienced several frightening oil spills within the San Francisco Bay in the past two years.
5. Authorize \$100 million annually for ten years to the U.S. EPA to fund projects, programs, and studies that implement priority objectives of the San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan (CCMP).
6. Establish a San Francisco Bay Program Office within Region 9 of the U.S. Environmental Protection Agency and authorize the EPA Administrator to appoint a Director of that Program Office to oversee that funding. This office should work to ensure full federal participation in state and regional bodies established to protect and restore the San Francisco Bay Estuary including the Sacramento-San Joaquin Delta.
7. Establish a San Francisco Bay Program Advisory Committee to provide advice to the Administrator on implementing the identified goals and objectives of the CCMP, with representation from appropriate Federal and State departments and agencies, and the Director of the SFEP.
8. Provide that the President's annual budget submission to Congress shall include information on federal agency expenditures for the protection and restoration of San Francisco Bay.

Thank you for the opportunity to present to this Subcommittee. Now is the time to manage the national treasure that is the San Francisco Bay Estuary using the appropriate tools to ensure its long term health for the people, commerce, natural environment and species that will depend upon it for years to come. With the changes impacting the Estuary ranging from population growth throughout the state, to water supply affected by climate change, the time to act is now.

The San Francisco Estuary Partnership's Comprehensive Conservation and Management Plan provides a viable framework to build an improved partnership with the federal government. Your action can develop necessary information to:

- Complete a vulnerability assessment of climate change on the Estuary
- Update flood plain maps
- Strengthen response to Oil Spills in the Estuary
- Make a ten year commitment to fund priority objectives for the Bay Estuary

Enacting Congresswoman Speier's proposal to improve the San Francisco Bay Estuary is a solid first step.

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 President
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RHONDA ZYGOSKI
 Vice President, Policy, Government,
 and Public Affairs
 Chevron Corporation

Ex Officio
JIM WUNDERMAN
 President & CEO, Bay Area Council
 *Nonvoting



May 3, 2010

The Honorable Jackie Speier
 U.S. House of Representatives
 Washington, DC 20510

Dear Representative Speier:

The Bay Area Council supports HR 5061, The San Francisco Bay Improvement Act, to increase federal resources to improve the health of San Francisco Bay.

The San Francisco Bay Estuary and its watersheds are national treasures that contribute to the federal, state, and local public health and economic vitality. It is the largest estuary on the West Coast of the United States.

Aesthetically and geographically it provides the distinguishing natural feature of the San Francisco Bay Region. The economic power and charm of the Bay Area is derived from this feature. Valuable property for commerce (airports, shipyards, access to freeways) and residential areas are adjacent to the Bay and overlook its beauty.

- The Oakland Port is the fourth largest container shipping port in the United States
- Through its main port in Oakland, eight smaller ports, and three international airports, the Bay area handles nearly 30 percent of West Coast trade.
- By itself, San Francisco International Airport is the country's ninth largest and the world's fourteenth busiest airport
- Tourism generates \$6.73 billion in spending each year and is one of the largest industries in the region

As a natural resource, the San Francisco Bay is home to more than 100 endangered species. The natural shoreline habitat, tidal and seasonal wetlands are part of the Pacific coastal resources of the United States.

Over the last 150 years, the water quality and health of the San Francisco Bay estuary have been diminished by pollution, invasive species, loss of wetland habitat and other factors. Improving bay water quality, restoring critical habitat, and adapting to climate change in San Francisco Bay, are urgent federal, state and regional priorities that require additional funding. The Bay region is fortunate to have in place well-developed science-based plans, agencies, and collaborative structures to improve the Bay's health, but more resources for implementation are essential in the crucial decade ahead. HR 5061 provides significant additional capacity to improve the Bay, building efficiently on elements already in place.

We encourage you and the entire Bay Area delegation to work for swift passage of this bill, and we pledge our continued assistance. Thank you for your leadership.

Sincerely,

Jim Wunderman
 President & CEO
 Bay Area Council



CITY OF
PORTLAND, OREGON

Sam Adams, Mayor
 Amanda Fritz, Commissioner
 Nick Fish, Commissioner
 Dan Saltzman, Commissioner
 Randy Leonard, Commissioner

May 10, 2010

The Honorable Earl Blumenauer
 United States Representative
 2267 Rayburn House Office Building
 Washington, DC 20515

Dear Representative Blumenauer,

Thank you for your sponsorship of H.R. 4652, the Columbia River Restoration Act of 2010. The projects that this important piece of legislation would fund will make a significant difference in the health and viability of the Columbia River and surrounding communities.

Funding for restoration and cleanup of the Columbia River is a priority for the City of Portland, and the region. We are particularly concerned with the lower Columbia River and estuary, which has a long history of contamination. The EPA's Columbia River Fish Contaminant Survey found traces of 92 individual pollutants in fish living in the river, which can affect the hormone balance in fish and complicate dredging in the lower river, both of which are critical to the economic health of communities along the river.

The lower Columbia River has been significantly under-funded both regionally and nationally. Between 2004 and 2009, only 6.7% of the funds spent in the Columbia Basin were dedicated to the lower river and estuary. The Columbia Basin is one of only two bodies of water that have been designated Large Aquatic Ecosystems by the EPA, but have received no appropriation pursuant to this designation.

This bill will not only strengthen the region's environmental health, but its economic health as well. The projects funded through this bill would create a wide range of jobs in our local communities, including jobs for truck drivers, engineers, landscape designers, road contractors, lab technicians, field monitors, chemists and biologists, and others. In many cases these workers will buy plants from local nurseries and construction materials from local suppliers, which will further strengthen the local economy.

Thank you for your hard work on behalf of the City and the State of Oregon, and for your continued leadership and support on this important issue.

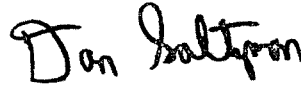
Sincerely,



Sam Adams
Mayor



Randy Leonard
Commissioner



Dan Saltzman
Commissioner



Nick Fish
Commissioner



Amanda Fritz
Commissioner



Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

May 6, 2010

Honorable Eddie Bernice Johnson, Chairman
Honorable John Boozman, Ranking Minority Member
Subcommittee on Water Resources and Environment
House Committee on Transportation and Infrastructure
B-376 Rayburn House Office Building
Washington, DC 20515
Attn: Jenna Tatum

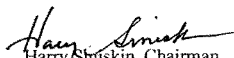
Dear Chairman Johnson and Ranking Member Boozman,

Thank you for convening the hearing on April 28, 2010 entitled "Protecting and Restoring American's Great Waterways, Part II: The Columbia River and San Francisco Bay." We also express our appreciation to Congresswoman Napolitano for chairing the hearing that day and for expressing the concern she did about the impact from river toxics on members of the Columbia River Treaty Tribes who, for both subsistence and cultural reasons, consume much larger quantities of salmon than does the region's non-Indian population.

Attached please find testimony of the Confederated Tribes and Band of the Yakama Nation that we are submitting for the hearing record.

Please don't hesitate to contact me if you or your staff has any questions.

Sincerely,



Harry Shitskin, Chairman
Yakama Tribal Council
Confederated Tribes and Bands of the Yakama Nation

Enclosure

cc: Honorable Grace Napolitano
Honorable Doc Hastings
Honorable Earl Blumenauer
Honorable Patty Murray
Honorable Maria Cantwell
Honorable Jeff Merkley

*“NOT MUCH LESS NECESSARY THAN THE
ATMOSPHERE THEY BREATHED”*

Testimony of the Confederated Tribes and Bands of the Yakama Nation

Submitted to the

United States House of Representatives

Committee on Transportation and Infrastructure

Subcommittee on Water Resources and the Environment

Hearing on

Protecting and Restoring American's Great Waterways, Part II
The Columbia River and San Francisco Bay

April 28, 2010

In 1905, the United States Supreme Court issued its landmark decision in the case known as *United States v. Winans* (198 U.S. 371). Rendering an opinion for an 8-1 majority, Justice Joseph McNenna wrote that for the Yakama people fishing for salmon in the Columbia River was “*not much less necessary to the Indians than the atmosphere they breathed.*” This decision also went on to help establish one of the most important principles in Indian law, generally known as the Reserved Rights Doctrine, when the court further stated that the rights retained by the Yakama Nation via their Treaty of 1855 “*... was not a grant of rights to the Indians but a grant of rights from them – a reservation of those not granted.*”

What was true in 1905 – and for thousands of years before that – is still the case today and will be for Yakama children yet unborn; salmon are of paramount importance to the our people. Columbia River salmon are central to our diet and therefore our health, to our ability to earn a living, to our religion and to our culture. For these reasons, we have been fighting in the courts and before the Congress for well over 100 years to ensure the salmon runs of the Columbia River Basin are protected. While we have oftentimes prevailed before the courts or in the Congress (we are proud of the lead role we took in securing the many fishery provisions in the Northwest Power Act), these victories have still left the fishery resource significantly reduced and our people damaged in ways that are not always evident. There are species of food that our elders used to eat, that came from the river or that were dependent on the river and that are now gone. As Indian people we are taught to plan seven generations ahead. Unless we take steps to deal with toxics in the Columbia what will the future hold, even one two generations into the future, not to mention seven?

It is important for this Committee to appreciate the nature of our present rights. In the Treaty of 1855 we ceded over 12 million acres of land to the United States. That land now covers nine separate counties in central and eastern Washington. Our Treaty further reserved the right of taking fish at all usual and accustomed fishing places in these ceded lands. The contested land in question in the *Winans* decision was Celilo Falls, an off-reservation usual and accustomed fishing place that was the most important Indian fishing location in the entire Columbia River Basin. Numerous federal court decisions since *Winans* have reaffirmed our Treaty fishing rights in much of the Columbia Basin. Those decisions have also held that Treaty fishing rights are property rights with all the legal protections associated with a property right.

An employee of the commercial salmon industry recently told a representative of our tribe that without the legal strength of the fishing rights retained by the Yakama that he didn't think there would be any salmon left in the Columbia River. While we appreciate the compliment he was paying us and the acknowledgement of the role our advocacy has played in protecting the fishery, it is an amazing observation in consideration of the fact that 20 years ago, the commercial fishing industry viewed the Columbia River Treaty Tribes as a threat. And while it is certainly good that the non-Indians were not able to totally eradicate the once mighty run of Columbia River salmon, we still have serious problems. Historically 16 million salmon returned to the Columbia each year. Today's run sizes total a fraction of that number (between 1.5 to 2 million). Most salmon runs on

the Columbia are either threatened or endangered as designated by the Endangered Species Act. Habitat destruction, massive hydro dams, contamination of the water in the Columbia River and non-Indian overfishing are the principal reason for this decline. As co-managers of the Columbia River fishery we participate in numerous forums together with state and federal managers that deal with allocation, dam operations and various efforts at habitat restoration and these efforts have paid dividends as salmon run sizes have begun to increase in recent years. However, these forums really do little to address water quality particularly relative to the toxins that are pervasive throughout much of the Columbia River Basin. For this reason, we are pleased that the Subcommittee on Water Resources and Environment is holding this hearing and focusing on water quality in the Columbia.

There is little question that there are national implications in dealing with this matter. First of all, the Columbia is the fourth largest river in United States by volume with drainage of 259,000 square miles, extending into seven states (predominantly Washington, Oregon and Idaho) and Canada and it is over 1200 miles long. It is the single largest contributor of salmon to the Pacific Ocean and those salmon are managed by state and federal entities and are the beneficiaries of an international treaty, the US/Canada Salmon Interception Treaty. Approximately 8 million people reside in the Columbia Basin and its hydro dams provide 75% of the electric power in the Northwest. There is no question that this river has broad national interests and that the Congress should act to preserve the quality of the water in this great river system.

The problem is that for a century industry has and continues to discharge its waste into the Columbia River, dumping untold millions of tons of toxic chemicals into the River. Today, ratepayers are spending millions of dollars a year to try and enhance the size of the salmon runs with growing evidence that those fish contain toxins as a result of that pollution. A report issued last year by the EPA, entitled **"Columbia River Basin: State of the River Report for Toxics"** stated that contamination in the Columbia basin poses an "unacceptable risk" to the people, fish and wildlife of our region. This study focused on mercury, DDT, PCBs and PBDEs (including flame retardants) and its results made headlines throughout the Northwest. While the study limited itself to the four contaminants identified above it acknowledged there are many other contaminants in our water including arsenic, dioxins, radionuclides, pesticides and even pharmaceuticals. A separate study by the U.S. Geological Survey indicated that fish in the Columbia contain higher levels of lead than do fish in the Mississippi and Colorado rivers. There are various Superfund sites in our region with Lake Roosevelt, the Hanford Nuclear Reservation and Portland Harbor being the three largest. These sites are adding deadly toxics to this beloved river and it is important that we employ habitat restoration and use innovative methods at reducing the toxics from these sites and be vigilant in monitoring levels of toxicity throughout the Basin. However, we believe there should also be bill or report language clarifying that nothing in the legislation is intended to eliminate the liabilities of the polluters or to in any way supplant ongoing CERCLA efforts at cleanup.

We are most concerned about this because it is the Indian people, including but not limited to those who still have a subsistence life style that consume Columbia River fish

and other aquatic animals (such as eels) at rates that are many times higher than is the case within the non-Indian residents of the Pacific Northwest. Studies undertaken jointly by EPA and the Columbia River Inter Tribal Fish Commission showed that members of the four Columbia River Treaty Tribes (Yakama, Umatilla, Warm Spring and Nez Perce) consume nine times as much salmon as the general population. It is therefore not surprising that the members of these tribes have a 1 in 50 chance of contracting cancer from eating fish in certain parts of the Columbia, a figure that is demonstrably higher than the national average.

We are very good at studying things in the Northwest but it is time to move beyond studies and to take action to protect all residents of the region. We must reduce or eliminate toxic chemicals throughout the Columbia River Basin. In reality this goes beyond being only a regional concern. The salmon that make the Columbia River home are caught in Alaska and Canada and are shipped throughout the country, as are our famous crops such as apples that are watered from the Columbia. Cleaning up the Columbia is a no brainer. Doing so will create jobs; protect aquatic species and man that relies on, enhance the marketability of crops grown by farmers, and help the regional economy through various means including enhanced tourism. The benefits of a cleanup far outweigh the relatively small costs involved in getting this river healthier and the infusion of federal funds will help leverage local contributions.

We are aware of some concerns that have been raised about the legislation but don't really see what the problems are. There seems to be a fear that the legislation will greatly enhance EPA's regulatory powers in the Basin. We don't see language in the bill that in fact grants EPA substantive enforcement power. Our region has a number of existing collaborative forums and this bill acknowledges those forums and does not upset the balance. Collecting water, sediment and salmon samples to measure contaminants and then working with farmers to support best management practices to reduce runoff or sponsoring pharmaceutical and mercury collection events are not exactly indications of a heavy-handed EPA. The legislation indicates the EPA team will assist, support, update and coordinate; provide funding; promote innovative methodologies; coordinate research and planning and track progress, etc. These are not regulatory powers that corporate interests should fear. While there would be coordination with agencies working on the Federal Columbia River Power System's Biological Opinion, HR 4652 does not supersede that existing collaboration. Again the focus of this bill is for non-regulatory community-based toxic reduction and habitat restoration programs. We would not object to changes in the bill clarifying that point.

Our main concern with the bill is the unnatural division between the lower river (below Bonneville Dam) and the remainder of the Columbia River Basin. The vast majority of the Columbia is above Bonneville. While we understand the history of LCREP – and are greatly appreciative of the role the organization has played – we think the Columbia should be treated holistically. Much of the contamination found in the estuary originates in the middle and upper rivers. As we have seen from the lack of progress in cleaning up the Chesapeake Bay, if there is not good coordination between the Bay itself and its sources, cleanup won't succeed. There needs to be a focal point in the governance of the

cleanup; a place where the buck will stop and that will be responsible for implementing a single strategic plan. Whether that would be the EPA Administrator or a new entity created via this legislation (such as Columbia River Partnership patterned after the Estuary Partnership) is an issue that should be explored further. In either case, the LCREP plan and the Estuary Partnership Comprehensive Conservation and Management Plan should be nested within that single entity, not separated from it and funds for implementation should be more equitably distributed than is the case in the present draft. We also believe there should be a clear role for the Columbia River Treaty Tribes in such a plan. We are not merely stakeholders; we are recognized governments with clear Treaty and property rights in the Columbia and an existing management role. We respectfully request that that role be institutionalized within the legislation in a manner that ensures we can protect our rights and assist in the cleanup and in so doing ensure the Columbia is cleaned up sufficiently for future generations.

Thank you for considering the views of the Yakama Nation.

Statement Pertaining to Need for Improved Management
of
San Francisco Bay and the Bay Watershed

Submitted by

Efren Carrillo
and
Shirlee Zane
Of the
Sonoma County Board of Supervisors
And the
Sonoma County Water Agency

Submitted to

House Committee on Transportation and Infrastructure
Subcommittee on Environment and Water Resources

May 4, 2010

We would like to submit these remarks as representatives of the County of Sonoma and the Sonoma County Water Agency as you consider Congressional interest in the ecological condition of San Francisco Bay and the surrounding watershed. The healthy functioning of San Francisco Bay is essential to the ecological and economic vitality of the San Francisco Bay area.

The County of Sonoma (County) and the Sonoma County Water Agency (Water Agency) have long been leaders in promoting sustainable watershed management practices. The County and Water Agency are committed to using water supplies prudently, and have promoted expanded use of recycled water across our the North Bay region to reduce demand on limited ground and surface water supplies. We have sponsored innovative projects to restore tidal wetlands of San Francisco Bay in recognition of the important benefits they provide to the ecological and economic vitality of the region. We recognize, too, that land use practices in the Bay watershed play a key role in maintaining a healthy San Francisco Bay.

Seven million residents of the Bay Area rely on the Bay for such basic services as sewage treatment and disposal, flood protection, transportation, commerce and moderation of climate. In large part because of the bay's influence on climate, energy demand throughout the region is relatively modest. By contrast, as one

moves away from the bay, the climate becomes more extreme in both directions, resulting in increased consumption of energy for heating and cooling. Bay ferries have become a popular and effective mode of transportation with plans for expansion in the future. The Port of Oakland is the third largest port on the Pacific Coast, and is especially important as an export point for California food and fiber that is marketed globally. Dozens of wastewater treatment plants serving 101 cities discharge directly into the Bay or its tributaries and rely on the daily exchange of the tides to mix and dissipate treated wastewater. The Bay's marshes and rocky shoreline reaches mitigate the impacts of flooding during storms. The Bay serves as a fertile nursery for fish and shellfish, including commercially valuable species such as dungeness crab and herring. Finally, San Francisco Bay is an unsurpassed international tourist attraction, drawing millions to its shores every year.

All of these benefits to society are at risk of being diminished as a result of the deteriorating ecological condition of San Francisco Bay. It has been listed by the Environmental Protection Agency as an impaired water body, compromised by pollution from numerous sources, including mercury, PCBs and dioxin. Ninety-one percent of its original marshes have been filled or drained, further compromising the Bay's ability to assimilate pollutants, and dramatically reducing the populations of aquatic species that rely on those marshes during all or part of their life cycles. Pollution of the Bay from storm water has become a much more serious problem as the Bay Area population has grown over the past several decades. The region's wastewater treatment systems were not designed to treat urban runoff and urban development wasn't designed in a way that would reduce or naturally dissipate such runoff and new strategies and facilities are required to address this growing threat.

Because the region has a Mediterranean-type climate with cool rainy winters and warm but dry summers, potable water sources are unreliable from year to year. Local ground and surface water sources are over-tapped for urban, agricultural, and industrial uses and, consequently, the volume of fresh water from local tributaries that reaches the Bay has been significantly reduced. Fresh water inflow to the Bay is important because San Francisco Bay is an estuary where fresh and salt water mix to create a unique aquatic ecosystem that is reliant on a fresh water infusion.

Some of the problems affecting the Bay require implementation of new long-term strategies, including promising new building and land development methods that can greatly reduce storm water runoff to the Bay by replacing hardscape with permeable surfaces that allow polluted runoff to percolate into the ground and be naturally cleaned by biotic processes rather than flow into the Bay without treatment. Implementation of such strategies requires changes to codes, standards and permitting processes and a gradual conversion of building and landscaping practices that will take many years to fully implement, but will nevertheless be very effective in reducing the impacts of storm water runoff to the aquatic and human environment.

Beyond storm water runoff, there are other impacts of urban and agricultural development around the bay that could be addressed if there was increased funding toward restoring the Bay and direct tributary watersheds. Fish friendly farming practices could be implemented to reduce erosion from livestock and other agricultural practices and the resulting sediment loading and to restore habitat on tributary streams to the Bay, which provide habitat for spawning and juvenile rearing of federally threatened steelhead. Off-stream reservoirs could be created or existing on-stream reservoirs converted to store high-flows from winter runoff or recycled water, and consequently reduce stream diversions for frost protection in the spring and during the spawning and juvenile steelhead rearing periods. Flood control channels and other maintained waterways could be enhanced to provide increased riparian habitat, reduce erosion and sediment loading and improve surface water quality. Wastewater treatment facilities can be improved to increase the treatment level and produce higher quality water for beneficial reuse and improve the quality of discharges. Wastewater storage facilities can be modified and expanded to provide wildlife habitat while increasing storage capacity allowing for greater reuse opportunities.

There is a significant opportunity to greatly expand the use of recycled water in the Bay Area. Many urban water uses that now rely on potable water, such as landscaping application and commercial plumbing applications, can be served equally well by recycled water. In addition, the considerable amount of potable water used for valuable agricultural commodities in the Bay Area can be served by recycled water instead. Implementation of these water recycling programs can occur both in the mid and long-term. While directly serving the immediate water demands of regional residents and businesses, these programs also help restore the Bay by reducing discharges and reducing use of groundwater and surface waters, allowing for other beneficial uses of precious potable waters for habitat values and human uses. Recycled water can also be used as a freshwater source for marsh restoration, which occurs on a minor scale already in the Bay Area but could be expanded considerably and would result in increased habitat for waterfowl, shorebirds and migratory birds that use San Francisco Bay and adjacent habitats as nurseries and resting and feeding stops along the Pacific Flyway and for endangered species, such as the salt-marsh harvest mouse.

Another extraordinary opportunity exists to directly restore the bay on a massive scale, while generating multiple direct benefits to the regional economy. More than 100,000 acres of the bay's original marshes can be restored relatively quickly and economically. These tidal marshes were drained beginning in the mid 19th century through about 1980. Today, they lie desiccated and undeveloped. Their destruction was a critical cause of several problems that befell the Bay Area community. Because tidal marshes were the nursery for aquatic life in the Bay, the populations of numerous fish and shellfish species plummeted. Since tidal marshes filter pollutants from the water, the Bay became more contaminated. Shoreline flooding increased significantly because the flood water absorption capacity provided by Bay marshes was virtually eliminated. This is of particular concern today as sea level is

rising. Tidal marshes are the first and best line of defense against sea level rise, as they can keep pace with rising sea level by the natural process of building the surface elevation of the marsh. Because most of the drained tidal marshes were not developed, they present a straightforward opportunity for restoration that already has commenced on a modest scale. However, the pace is slow due to inadequate construction funding.

For all of these reasons we support a Bay-wide program of restoration and innovative watershed management strategies that will revitalize the Bay and surrounding watershed lands. This restoration program will improve water quality and increase fresh-water inflow to the Bay, its tributaries, and surrounding wetlands resulting in benefits to aquatic life, endangered species, waterfowl, and migratory and resident bird species and for people. Improvements in habitat will also provide secondary benefits for recreational uses and in the case of wetland restoration and increased use of recycled water, an ability to better withstand the potential flooding and water supply impacts of climate change. In summary, this program will provide Bay Area residents and businesses with the tools they need to sustain their communities in the coming decades.

Thank you for your thoughtful consideration of our remarks.

Sincerely,

Efren Carrillo
County of Sonoma Supervisor, 5th District
Director, Sonoma County Water Agency

Shirlee Zane
County of Sonoma Supervisor, 3rd District
Director, Sonoma County Water Agency



RESTORE AMERICA'S ESTUARIES

April 8, 2010

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Jeff Benoit

President and CEO
Restore America's
Estuaries

The Honorable Jackie Speier
U.S. House of Representatives
Washington, DC 20515

Dear Representative Speier:

On behalf of Restore America's Estuaries (RAE) and its partner groups from coast to coast, I write to express our support for the San Francisco Bay Improvement Act. We believe this legislation will greatly improve the health of San Francisco Bay, and we applaud your initiative to help in that effort.

Restore America's Estuaries is a national alliance of 11 community-based organizations that collectively have over 250,000 members nationwide. We have been working since 1995 to restore our nation's greatest estuaries, with a mission of preserving the nation's network of estuaries by protecting and restoring the lands and waters essential to the richness and diversity of coastal life. In conjunction with our member group, Save the Bay — San Francisco, we are committed to making San Francisco Bay a cleaner and healthier estuary.

As you know, estuaries are vital to our quality of life and our health, and they play a major role in creating jobs and boosting local economies. Estuaries protect water quality, are a center for research and education, and help stem the erosion of our shoreline communities. They also provide essential habitat for over 75 percent of our nation's commercial fish catch and commercial and recreational fishing, boating, and tourism in estuaries generate more than 28 million jobs nationwide. As the largest estuary on the West Coast of the United States, San Francisco Bay and its tributaries are critical to the well-being of countless human and wildlife populations.

Over more than a century, the water quality and health of the San Francisco Bay estuary have been diminished by pollution, invasive species, loss of wetland habitat and other factors. More than 90 percent of the shoreline wetlands of the Bay have been destroyed by diking, filling, and development. Improving water quality, restoring critical habitat, and adapting to climate change in the Bay are urgent federal, state, and regional priorities that require additional funding. The San Francisco Bay Improvement Act would provide significant additional capacity that will greatly enhance existing efforts to improve the Bay.

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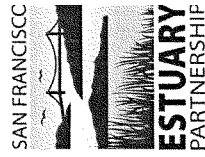
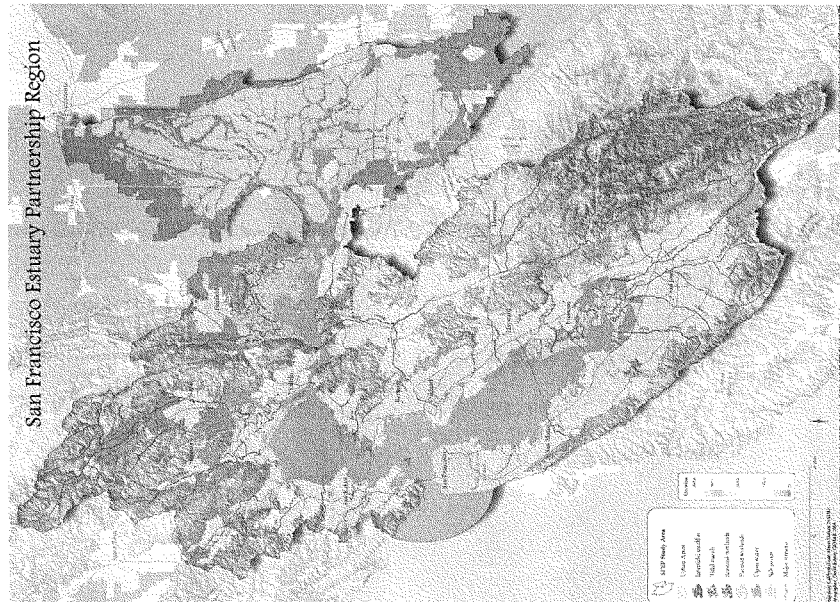
We encourage you and the entire Bay Area delegation to work toward swift passage of this bill, and we thank you for your leadership on this issue.

Sincerely,

A handwritten signature in black ink, reading "Jeff Benoit". The signature is written in a cursive, flowing style.

Jeff Benoit
President and CEO





This Strategic Plan was developed by staff and our dedicated partners over 18 months, in recognition of both new funding opportunities and new urgency to address key environmental issues such as climate change.

We have identified three goals for the next three years as the Partnership continues working to bring the Estuary back to health and building its resiliency. These goals are:

- Focus Comprehensive Conservation and Management Plan implementation on four objectives promoting watershed stewardship, actions and research in climate change and healthy watersheds, facilitate low impact development projects, and communicating the value of the estuary to decision-makers and the public
- Reorganize the Partnership to better carry out its mission
- Increase funding for implementation efforts

This is a "living document." We will revisit it as needed to ensure that it is up to date and takes account of the challenges and opportunities facing the Estuary, and all of us who live here.

On behalf of the Estuary, I want to offer many, many thanks to all who contributed to this project. We have already begun work to achieve these goals, and I look forward to much progress in the months and years ahead.

Judy A. Kelly
Director
San Francisco Estuary Partnership

Map courtesy of the Center for Ecosystem Management and Restoration
Cover printed photo of Grizzly Island, courtesy of Wendy Murphy and Jean Matuska

SAN FRANCISCO ESTUARY PARTNERSHIP STRATEGIC PLAN for 2010–2012

The San Francisco Estuary Partnership (SfEP) is a federal-state-local effort working to restore and improve the health of the San Francisco Estuary. The Partnership created and oversees implementation of the Estuary's environmental master planning document, the *Comprehensive Conservation and Management Plan*, or *Comprehensive Plan*; manages technical research and restoration projects; and educates the public about Bay-Delta issues including wetlands, wildlife, aquatic resources, and land use. The work of the Partnership is funded through an array of federal, state, and local grants and contracts.

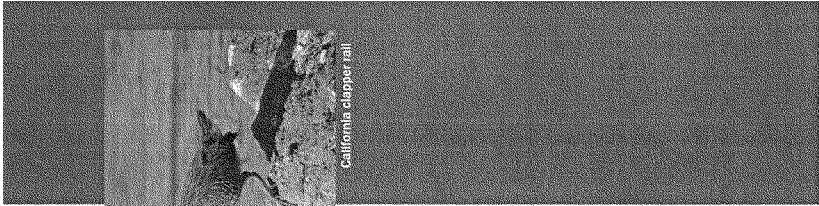
The Bay-Delta Estuary

The Estuary's watershed covers about 60,000 square miles—nearly 40 percent of California. This is the largest estuary in western North America and a biological resource of tremendous importance—providing critical winter feeding for over a million migratory birds, a productive nursery for juvenile fish and crabs, and a full-time home for many other plants and animals. Roughly half of California's surface water supply falls as rain or snow within this region, and about half of that is diverted for use by farms, factories or households.

The San Joaquin-Sacramento River Delta, the upstream section of the Estuary, is a thousand-square-mile triangle of diked and drained wetland. Only small remnants of once-extensive tule marshes still fringe the sloughs and channels that wind between flat, levee-rimmed farmlands on the Delta islands. Before it was diked and drained, the Delta gathered in the fresh waters of the Sacramento, San Joaquin, Mokelumne, and Cosumnes rivers, and moved them all downstream, through a complex array of tidally influenced channels, into salty San Francisco Bay. Today, the Delta is the engineered junction for one of the world's largest plumbing systems, where fresh water is diverted to supply California's population centers and Central Valley agriculture.

As the mixing zone moves up and down the Estuary, salinity increases and decreases in Bay segments. San Francisco Bay includes four smaller bays: Suisun Bay and the diked wetlands of Suisun Marsh are the least salty of these, just downstream of the Delta. Salier San Pablo Bay is west of Carquinez Strait. The saltiest basins are the Central Bay, which connects with the ocean through the Golden Gate, and the South Bay, a large, shallow lobe extending off the Central Bay, south of the Dumbarton Narrows.

Estuaries are partially enclosed bodies of water where fresh river water meets and mixes with the salty ocean. In the San Francisco Estuary this "mixing zone" can move tens of miles upstream and down as tides and river flows rise and fall.



California clapper rail

Photo courtesy Peter Baye

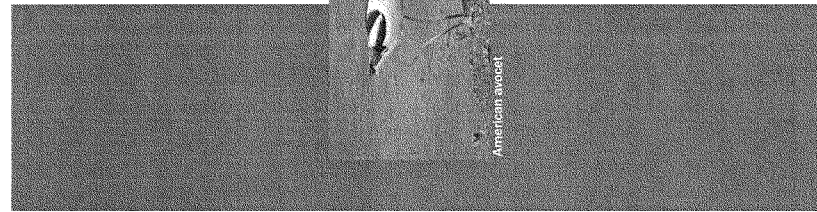


Photo courtesy Bob Lewis

The Comprehensive Conservation and Management Plan: Overview

SFEP's work and mission are detailed in the *Comprehensive Conservation and Management Plan*. Completed in 1993 and revised in 2007, this document is organized around nine issue/program areas, each with goals, objectives, and actions:

- Aquatic Resources
- Wildlife
- Wetlands Management
- Water Use
- Pollution Prevention and Reduction
- Dredging and Waterway Modification
- Land Use Management
- Public Involvement and Education
- Research and Monitoring

The Plan, collaboratively produced by consensus agreement of a broad community of stakeholders, recommends over 200 actions to protect and restore the San Francisco Bay-Delta Estuary. It is the region's roadmap for restoring the Estuary's chemical, physical,

and biological health. The 2007 Plan includes new and revised actions, such as the need to address sea level rise, while retaining many of the original actions.

SFEP is supported by a Director and 17 staff. Two committees, an Executive Council and the Implementation Committee (IC), provide advice and guidance. The IC meets quarterly and includes over 25 member organizations representing resource agencies, nonprofits, local governments, and the business community. The Executive Council is made up of heads of state, federal and local agencies, and meets when needed.

Challenges to be addressed through Strategic Planning

The Comprehensive Plan describes over 200 actions needed to help restore the estuary to a more healthy state. Many actions, such as those related to land and water use, require regulatory or policy changes. Finding the funds for more than 200 actions is an ongoing challenge.

Monitoring Comprehensive Plan implementation is also a challenge, with many actions to address simultaneously. The Partnership tracks implementation in the aggregate—acknowledging efforts of the dozens of agencies and entities working on Estuary-related issues. Success by one partner has been counted as success for the Comprehensive Plan. This Strategic Plan provides sharper focus on key areas and allow more specific reporting, over a yearly and multi-year timeframe, of what has actually been accomplished by Partnership staff and Implementation Committee partner organizations. It will also help the Partnership focus annual work plans, identify appropriate grant opportunities, and make funding decisions.

Implementing Comprehensive Plan actions

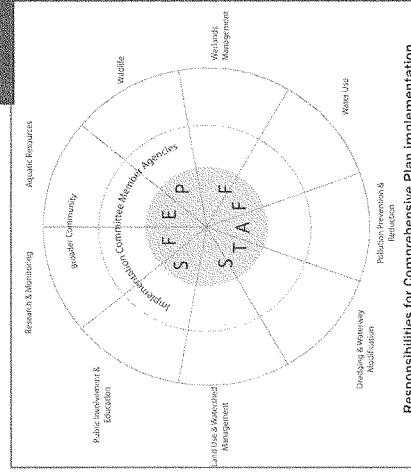
Partnership staff, Executive Council agencies, and Implementation Committee members are responsible for implementing the actions in the Comprehensive Plan. However, numerous agencies and organizations take part in estuary-related work while not part of the SFEF structure. The diagram at right shows the three tiers of implementing efforts: actions taken directly by staff; actions taken by Implementation Committee entities, and actions taken by the wider community of interest groups that further implementation of Comprehensive Plan actions.

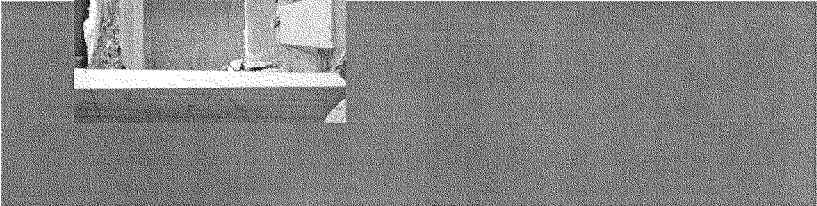
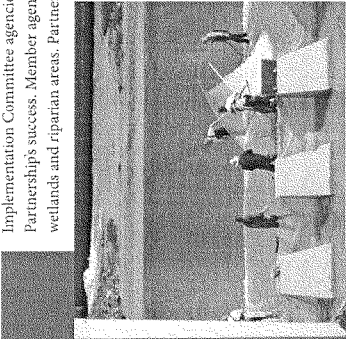
At the core of this effort, Partnership staff act as both direct implementers (taking action using grant funds and Partnership dollars directly) and as facilitators of projects (obtaining and passing along grants and contract dollars to other organizations) that implement actions within the nine CCMP program areas.

SFEF has directly assisted dozens of important efforts such as drafting the aquatic invasive species plan for California; creating and supporting the urban pesticides pollution prevention project; implementing an estuary-wide boater education effort aimed at reducing direct discharges of sewage into the bay; developing and sponsoring nine State of the Estuary conferences; publishing 17 years of the highly regarded *ESTUARY*

newsletter; creating or supporting of a wide array of public information materials including the first ever State of the Bay report; and producing a series of fact sheets, booklets, videos, films, brochures and other materials that educate the public and decision-makers about the estuary.

SFEF has sought and received millions of dollars in grant funding for habitat restoration projects around the region. Through these grants, SFEF funds investigation of methylmercury and low dissolved oxygen in Suisun Marsh; low impact development pilot projects; development of a Stream and Wetlands Protection Policy for the state and regional Water Boards; the Baylands and Subtidal Habitat Goals projects; and much more. Current projects are described on the Partnership website: <http://www.sfeff.org>.



Implementation Committee agencies and organizations have contributed much to the Partnerships success. Member agencies have acquired and are restoring thousands of acres of wetlands and riparian areas. Partners have achieved hard won success in working to control non-native invasive species such as *Spartina alterniflora* and in monitoring status and trends of pollutants in the Estuary. Both in the Bay Area and in the Central Valley, they are developing and meeting pollutant load limits—for pathogens, nutrients, salt, selenium, sediment, pesticides, polychlorinated biphenyls (PCBs), oxygen, and mercury. SFEP catalogs our successes every two to three years with a “Report Card” on the Comprehensive Plan (1996, 1999, 2001, 2003, 2005, and 2007).

Strategic Planning Methodology: Survey of Current Partnership Needs

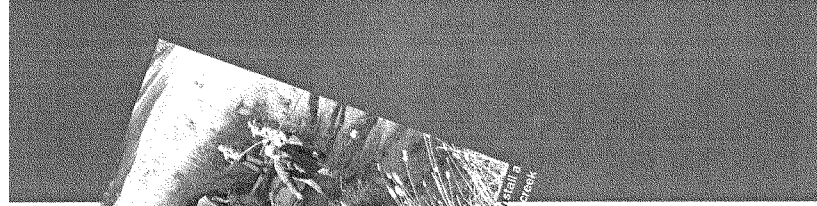
The Partnership’s priorities, set in 2007, are:

- **Sea Level Rise:** Study and recommend actions to address impacts on wetlands and infrastructure from global warming
- **Freshwater Inflows:** Determine amount of freshwater needed in San Francisco Bay and Bay Area streams to support aquatic species
- **Land/Water Use:** Guide regional agencies and local government in establishing water quality related land use and watershed goals and protection policies
- **Pollutant Minimization:** Encourage manufacturers to account for the full environmental life cycle of their products; educate consumers and develop policies that aim to reduce pesticide use; and assist Bay Area municipalities in reducing the trash that pollutes local creeks, the Bay, and the Pacific Ocean
- **Streams/Wetlands Protection and Preservation:** Provide fish and wildlife habitat and restore the natural landscape while reducing flood damage and improving water quality

With these priorities in mind, the Strategic Planning effort began in fall of 2008 with interviews of key individuals knowledgeable about the Estuary. Interviewees provided insights and opinions on four issue areas:



Both photos: Alameda Creek Alliance volunteers move fish past barriers on the creek



Bay Institute volunteers install a willow wall to help restore a bank.

- Emerging critical trends that will affect the Bay in the coming decades
 - SFEPP's strengths and challenges
 - The Partnership's unique niche in the context of organizations promoting restoration of the Estuary
 - Recommended priority areas where SFEPP should focus in the next three years
- We feel these priority issue areas mesh well with the 2007 priorities, and frame our goals and objectives for 2010–2012.

Strategic Planning Issue Areas

Emerging Critical Trends

- **Climate change, including sea level rise and associated issues** (stormwater management/control, land use decisions) will have increasing impacts on the health of the Estuary. Related trends include the growing need to identify what should be protected, what should not be, and defining the role of tidal marshes and wetlands in a changing Bay.
- **The region has a growing need for a collective vision and public visibility of the value of the Bay.** Measures to restore the Estuary will require significant investment. The Bay Areas "Gross Regional Product" in 2007 was estimated to be over \$400 billion; the health of the Estuary is a critical part of the overall health and vitality of the region. With shifts in the U.S. Congress and administration, the National Estuary Projects—and SFEPP—have opportunities for greater visibility and financial support for the Bay.
- **Land use decisions and urbanization will place even more pressure on the Bay.** Without greater linkage between land use and water issues, there is likely to be limited progress in improving Estuary health.
- **Changes in the Delta and fisheries declines will continue to affect the Bay.** Changes in freshwater flows will have major impacts on the Estuary. "The fate of the Estuary is in the hands of the crisis in the Delta."

Strengths and Opportunities for SFEPP

In order to better understand how to modify SFEPP's program and structure to better advance the goals and objectives of the CCMP, the strategic planning process analyzed the Partnership's

Over the next three years, SFEPP will focus on:

- Convening partners and bringing together science, expertise, money and resources
- Implementing priority Comprehensive Plan actions, especially those that are not current priorities of our partners
- Communicating and highlighting the Estuary's value, status, and needs
- Finding projects directly
- Tracking and reporting progress

strengths and weaknesses, concluding that SFEPP's primary unique strength is its place among Bay Area agencies and environmental groups as a neutral, non-competing convener. The Partnership succeeds at taking an Estuary-wide approach, providing connections with key regional agencies, sharing information and convening conferences and symposia such as the biannual State of the Estuary, and developing and disseminating effective education/outreach materials.

The Partnership's core competencies

- Ability to network and lead collaborative projects
- Skill and experience in organizing and processing complex environmental information
- Proven track record in grants and contracting
- Regional and national credibility
- Positive public image
- Consistent, responsive, and stable player on the Bay Area environmental scene

Challenges for SFEPP

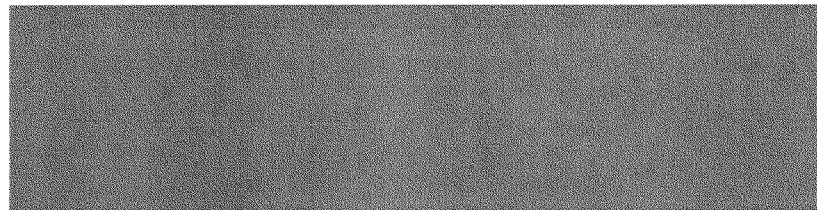
Interviewees concur that the core competencies of SFEPP staff, while excellent for current tasks and projects, may not address priorities identified for future work. A review of SFEPP organizational structure and staff roles and capacity is recommended. In addition, the survey identified the following needs:

- A full implementation strategy for the Comprehensive Plan
- Direct authority to carry out the Plan
- Adequate Partnership budget for advancement of specific actions
- Improved public outreach and education about the Bay
- An expanded focus to include upper Estuary and Delta interests

According to survey respondents, SFEPP's challenges are related to the breadth and related lack of clear priorities in the Comprehensive Plan; to the absence of a strong municipal commitment to the Plan at the local executive level; and to SFEPP's and the Implementation Committee's lack of authority to enforce implementation of actions the Plan prescribes. We must all work to increase awareness of the Plan and of the importance of implementing its actions.

Monitoring team at Muzzi Marsh in Corte Madera

Photo courtesy Phyllis Faber



The Partnership's Niche

Interviewees' strategic vision for the Partnership is that SFEP is a champion for the estuary. The Partnership nurtures and supports the regional collaborations that are essential for the protection and restoration of the Estuary.

SFEP is the only program that addresses all ecological aspects of the Estuary and its watershed, from aquatic habitats and wetlands to water quality and pollution. SFEP is uniquely suited to provide a unifying forum, through which innovative programs are developed to implement the Comprehensive Plan.

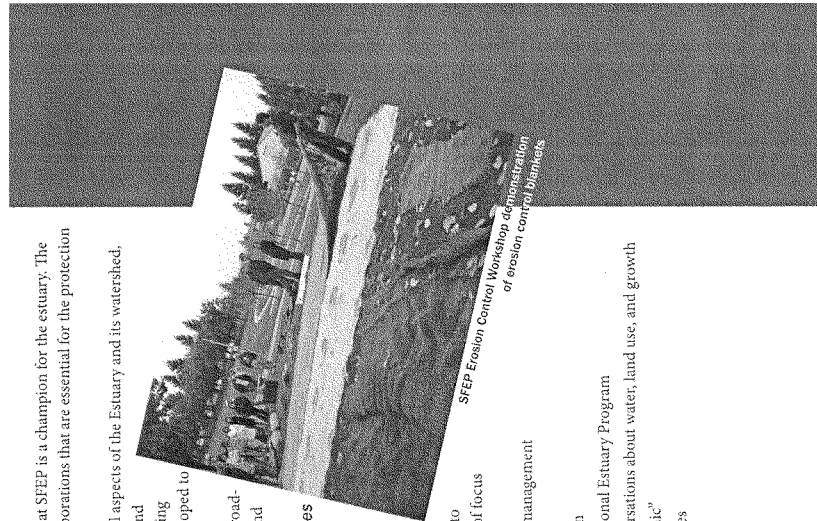
This Strategic Plan will help SFEP capitalize on the broad-based, collegial strengths of the Partnership and extend support for improving and restoring the Estuary.

Recommendations: Priorities and Opportunities for SFEP

Because of its unique strengths, many interviewees stated that SFEP holds real potential to be a unifying voice and advocate for the Bay, operating at a high level as an Estuary-wide umbrella.

There was nearly unanimous agreement on the need to focus on a subset of CCMP actions. Suggested areas of focus correspond to the 2007 priorities for the Partnership:

- Sea level rise and changes in salinity; proactive management
- Land use decisions
- Wetlands and watershed preservation/protection
- Capitalizing on the Partnership's status as a National Estuary Program
- Working with ABAG to convene regional conversations about water, land use, and growth
- Developing a Bay-wide "water conservation ethic"
- Linking SFEP more closely with local universities



GOALS & OBJECTIVES 2010–2012

The Strategic Planning exercise yielded the following goals and objectives for the next phase of our work.

GOAL 1: FOCUS COMPREHENSIVE PLAN IMPLEMENTATION ON FOUR KEY OBJECTIVES

OBJECTIVE 1: *Promote integrated watershed stewardship*

Integrate projects within key watersheds, from headwaters to tidal waters. Increase the health and resilience of watersheds and increase active partnerships in the region to improve water quality and habitat health.

OBJECTIVE 2: *Support Estuary resilience in the face of climate change*

Expand the toolbox of watershed protection measures needed under a changing climate regime and provide the necessary baseline information to adaptively manage the health of our waterways.

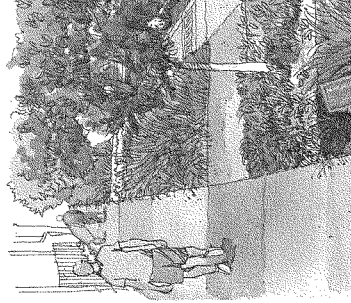
OBJECTIVE 3: *Promote green infrastructure and reduce pollution from stormwater runoff*

"Green Infrastructure" improves water quality while providing wildlife habitat and opportunities for outdoor recreation. Practices range from large scale preservation/restoration of natural landscape features to site specific low impact development (LID) features such as rain gardens, porous pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting.

OBJECTIVE 4: *Champion for the Estuary*

Develop and implement a communications program to raise the visibility and increase support of SEEP's Bay protection and restoration activities.

Create and implement communications strategies and outreach campaigns to improve local government and regional decision making, increase overall public awareness, and promote positive behavior change.



Conceptual drawing for El Cerrito rain gardens, courtesy Gates and Associates

GOAL 2: REORGANIZE SFEP FOR GREATER EFFECTIVENESS

The Partnership is well-positioned to implement its historically modest budget. However, in order to support an expanded effort, it is necessary to increase the organization's budget and program capacity.

OBJECTIVE 5:

Reaffirm role of SFEP's Executive Council

The SFEP Executive Council has rarely met over the years and has, therefore, played an underutilized role in the activities of the Program. Nevertheless, the Council could play a very important and helpful role if engaged more effectively.

OBJECTIVE 6:

Establish a Steering Committee to support SFEP Director

The Director will benefit from the active participation of a group of advisors. A formal Steering Committee should be established to advise the Director on important matters pertaining to the Program.

OBJECTIVE 7:

Expand participation of local elected officials

OBJECTIVE 8:

Improve the efficiency of the IC by updating decision making/membership procedures

OBJECTIVE 9:

Establish a Science Committee

OBJECTIVE 10:

With Friends of the Estuary, establish a Public Outreach Committee

OBJECTIVE 11:

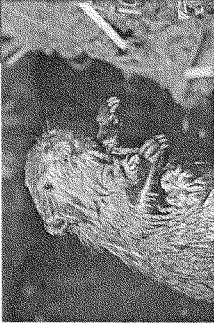
Establish a Project Review Committee

OBJECTIVE 12:

Assess SFEP staff and organizational capacity, and adjust as needed

OBJECTIVE 13:

Use interagency staff partnerships to enhance SFEP staff expertise



An Alhambra Creek beaver kit

Photo courtesy Cheryl Reynolds

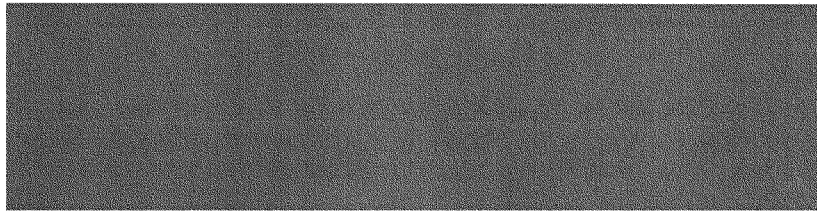
**GOAL 3: INCREASE FUNDING AND RESOURCES TO SUPPORT STEP AND ITS PARTNERS
TO IMPLEMENT THE COMPREHENSIVE PLAN**

This goal relates to restructuring the Implementation Committee. A significant source of increased funding for the STEP in coming years is expected to come from public sources. Those with the most influence over the future direction of public funding, whether it be local, state or federal, are elected officials. By expanding our partnership with elected officials, the Partnership can significantly increase its ability to attract public funds in the future.

- OBJECTIVE 14:** Continue to compete for state and federal grants in programs directly related to Strategic Plan priority areas, including new opportunities such as the San Francisco Bay Area Water Quality Improvement Fund and the Clean Water State Revolving Fund
- OBJECTIVE 15:** Continue to support and build new relationships and partnerships to support implementation work
- OBJECTIVE 16:** Staff and support the efforts of the new Bay Restoration Authority to identify and create new funding mechanisms for further wetland restoration around the Bay
- OBJECTIVE 17:** Actively seek additional funding from philanthropic organizations, to help address critical Estuary environmental needs
- OBJECTIVE 18:** Expand collaboration on projects of common interest with cities, counties, and special districts
- OBJECTIVE 19:** Provide local government partners with technical assistance to bring Comprehensive Plan Implementation projects to a state of funding readiness



The Bay Trail (photo courtesy Assoc. of Bay Area Governments)



Goal 1: Focus CCMP Implementation Actions on Four Key Objectives

OBJECTIVE 1: *PROMOTE INTEGRATED WATERSHED STEWARDSHIP*

Increase the health and resilience of watersheds and increase active partnerships in the region to improve water quality and habitat health.

Desired Results

Long-term: Demonstrated improvement of watershed health as evidenced by improved water quality; improved wildlife, fisheries, and other aquatic populations.

Short-term: Successful integration of restoration, water quality, stormwater, flood management, land use, and other actions within a selected number of Bay watersheds.

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 1.1: Fund wetland, riparian, and stream corridor restoration and/or enhancement projects around the estuary	Increase in number of wetland acres, tidal marsh acres, stream corridor miles	Facilitate funding Provide public outreach or support outreach efforts Grant administration services	Lead the work under a contract or grant	WP 3.4 WP 3.5 WP 3.6 WP 3.7 WP 3.20	AR-4.8,4.9 AR-4.11 AR-4.12 AR-6.6 DW-4.1 DW-5.3 PO-4.3 WL-1.1 WL-1.3, 1.4, 1.5 WL-2.2 WT-1.2, 1.3, 1.4, 1.5 WT-3.1 WT-3.2 WT-4.1
Objective 1.2: Assist development of regional goals projects and management plans (i.e. Habitat Goals, Subtidal Habitat Goals, Up-land Habitat Goals, regional sediment plans)	Publication of the documents implementing the goals	Support with staff time Grant administration services Public education efforts	Lead the work	WP 4.4	AR-7.1 AR-8.1 AR-8.2 LU-3.2

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 1.3: Develop and support adoption of new stream and wetlands protection policies, which protect natural watershed functions, by the Water Board.	Adopted Basin Plan amendments by Water Boards in Region 1 and 2 (North Coast and SF Bay) Established State Board policy	Obtain external funding Staff support Grant administration Public education	SFEP staff SF Bay Water Board's lead	WP 3.2	LU-2.7
Objective 1.4: Assist implementation of Aquatic Invasive Species Management Plan, support regional and national Task Forces.	Reduction in numbers of invasive species/rapid response to new invasions	Staff support; Fund directly Grant administration Public education	Coordinate with the California Coastal Conservancy, SF Bay Joint Venture, and Dept. of Fish and Game	WP 3.13 WP 3.14	AR-2.1 AR-2.2 AR-2.3 WL-3.1 WT-4.2
Objective 1.5: Support and promote new methods of water use conservation within the estuary watershed.	Increased instream flow in creeks and rivers within region	Obtain external funding Grant administration Educate public about new methods	Conduct research, analysis	WP 3.12	WU-2.1 WU-2.2
Objective 1.6: Support on-the-ground projects and local volunteer and collaborative partnerships, such as watershed councils, to develop community-based approaches to long-term stewardship	Increased capacity of watershed groups to participate in regional and local restoration efforts	Staff support Fund directly Public education Technology transfer	Direct funding and additional support as appropriate for each entity	N/A	LU-2.6 LU-3.1,3.2
Objective 1.7: Support flow studies and projects to restore adequate flows in Bay tributary streams for aquatic resources, provide pollution prevention, and other beneficial uses.	Increased understanding of flows needed to sustain fish and wildlife resources	Obtain external funding Fund directly Staff support Grant administration	As appropriate: additional support, lead on data collection and analysis	N/A	AR-6.6

Shaded objectives are proposed new initiatives

GOAL 1 OBJECTIVE 2: SUPPORT ESTUARY RESILIENCE IN THE FACE OF CLIMATE CHANGE

Expand the toolbox of watershed protection measures needed under a changing climate regime and provide the necessary baseline information to adaptively manage the health of our waterways.

Desired Results

Long-term: 1) Comprehensive body of scientific knowledge of predicted changes to the Bay and Estuary resulting from sea level change, global warming and other climate changes; and 2) accepted strategies to protect our water resources

Short-term: Multi-agency coordinated effort to establish necessary scientific research and monitoring, expanded watershed-level toolbox through input from watershed restoration experts at all levels of involvement.

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 2.1: Complete work to establish meaningful environmental indicators to measure and report out on the health of the estuary.	Better understanding of state of the Estuary and its resources Improved decision-making based on better data	Fund directly Obtain external funding Staff support Grant administration Publish State of the Bay report in 2010, every 5 years thereafter	Appropriate partners participate in development of report under grant or contract	WP 3.3 WP 5.1	RM-1.2 WT-5.1 WT-5.2 WT-5.3
Objective 2.2: Improve monitoring and tracking of restoration projects and support research on new restoration efforts.	Creation of better metrics on meaning of successful projects	Obtain external funding Staff support Grant administration	Science partners lead effort	WP 2.5	WT-5.1 WT-5.2 WT-5.3
Objective 2.3: Support research and analysis into the effects of climate change on the ecology of the Estuary. Promote climate adaptation strategies and policies that encourage protection and restoration of Estuary health and reduce damage to the ecosystem.	Increase in public's and elected officials' understanding of regional climate impacts, measured through survey Increase in local and regional adaptation measures and actions being taken to address defined climate change impacts	Obtain external funding Fund directly Staff support Grant administration Public education efforts Staff support	Science partners lead effort Support science analysis and integration Lead and support regional work on policy development	WP 4.1 WP 4.2 WP 4.3 N/A	DW-1.1 DW-1.2 DW-5.1 WT-5.2 LU-2.1 DW-5.1 DW-5.2

Sub-objective	Indicators of Success	SEEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 2.4: Support sediment/sand research studies to improve understanding of sediment/sand supply, fate, transport and associated contaminants. Develop and promote appropriate management policies to preserve and enhance habitat health and resilience.	Report on results of sediment studies and effect on policies	Staff support Grant administration	Lead and support regional work	N/A	AR 8.1 AR 8.2 DW 1.1, 1.2, 1.3, 2.2

GOAL 1 OBJECTIVE 3: PROMOTE GREEN INFRASTRUCTURE AND REDUCE POLLUTION FROM STORMWATER RUNOFF

Expand the region's network of "green infrastructure" projects to improve water quality while providing wildlife habitat and opportunities for outdoor recreation. Green infrastructure practices range from large scale preservation/restoration of the natural landscape to site specific Low Impact Development (LID) features such as rain gardens, porous pavements, green roofs, infiltration planters, trees and tree boxes, and rainwater harvesting.

Desired Results

Long-term: Development of a network of well-designed, effective, and appropriate LID and smart growth projects, to reduce stormwater pollution throughout the region

Short-term: Establish and maintain successful partnerships among land use and stormwater interests, water quality regulators, and local watershed stewards, dedicated to developing LID projects, monitoring their effectiveness, and determining what sorts of solutions work under specific conditions

Sub-objective	Indicators of Success	SEEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 3.1: Remediate legacy pollutants such as mercury and PCBs from sources such as older urban and industrial areas.	Reduction of pollutants of concern, attainment of TMDLs	Obtain external funding Fund directly Staff support Grant administration	Lead regulatory efforts	WP 3.10 WP 3.11 WP 3.16 WP 3.19	PO 1.5 PO 1.6 PO 2.3 PO 2.7 PO 3.1 PO 3.2

14 Shaded objectives are proposed new initiatives

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 3.2: Foster integrated programs for pollution prevention such as IPM Partnership, Bay-friendly landscaping, environmental preferential purchasing, etc.	Reduction of pollutants as measured in regional monitoring programs	Obtain external funding Staff support Grant administration	Direct support	WP 6.4	AR-2.1.2.2, 2.3 PO-1.4.1, 1.4.2 PO-1.7.1, 1.7.2 WT-4.2 PI-2.2 PI-2.4.2.5
Objective 3.3: Prevent trash from polluting waters of the Estuary by supporting prevention efforts.	Reduction of trash as measured in regional monitoring programs	Obtain external funding Staff support Grant administration Public education	Local and regional agencies lead with projects, policy and BMP implementation	WP 3.8 WP 3.15 WP 5.4	AR-9.1 AR-9.2 PO-1.8
Objective 3.4: Implement a regional urban pesticide pollution reduction strategy.	Reduction of pollutants as measured in regional monitoring programs	Obtain external funding Fund directly Staff support Grant administration	Federal, state, regional and local agencies participate and support	WP 3.17 WP 3.18 WP 6.4	PO-1.6
Objective 3.5: Assist local agencies with storm water control & TMDL compliance projects to improve management options and decrease urban runoff. Educate planners, public works departments, and builders on sustainable design and building practices and stormwater BMPs.	Stronger implementation of green stormwater BMPs across the region	Obtain external funding Staff support Grant administration	Local and regional agencies lead with projects, policy and BMP implementation	WP 5.2 WP 5.3 WP 5.6	LU-1.1 LU-1.1.1 LU-1.5.1.6 PO-1.2 PO-2.4, 2.5
Objective 3.6: Promote stormwater BMPs and guidelines for site planning for new construction and redevelopment efforts.	Decrease in construction-related impacts to regional waterways	Fund directly Staff support	Local and regional agencies lead with projects, policy and BMP implementation	WP 5.9 WP 5.10	LU-1.5 LU-1.6

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 3.7: Implement green stormwater projects in Bay cities including cisterns, rain gardens, bio-swales and other green infrastructure.	Growing number of green stormwater projects implemented across the region	Obtain external funding Staff support Grant administration	Local and regional agencies lead with projects, policy and BMP implementation	WP 5.5	LU-1.5 LU-1.6 LU-2.2
Objective 3.8: Collaborate with ABAG to ensure that SFEP supports FOCUS goals for urban infill	Increased infill development in FOCUS priority development areas	Staff support Engagement with ABAG planners	Local and regional agencies lead implementation	N/A	LU-2.2

GOAL 1 OBJECTIVE 4: CHAMPION FOR THE ESTUARY

Develop and implement a communications program to raise the visibility and increase support of SFEP's Bay protection and restoration activities. Create and implement communications strategies and outreach campaigns to improve local government and regional decision making, increase overall public awareness, and promote positive behavior change.

Desired Results

Long term: 1) Demonstrated increased levels of awareness about Bay health and restoration among Bay Area residents, and 2) success in increasing national, state, and local support for the Partnership through ongoing funding support and legislation.

Short-term: 1) Increased knowledge of SFEP initiatives and their benefit to the Estuary, 2) successful support from local leaders for the new Restoration Authority and for federal and state funding opportunities, and 3) successful support of local environmental education and outreach in select bay watersheds

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 4.1: Promote public involvement in Estuary protection and restoration through improved web-based information.	Increased public support for protecting and enhancing estuary services and values	Fund directly Staff support	Contribute ideas and advise priorities	WP 1.4	PI-1.1 PI-1.4 PI-1.5 PI-1.6 PI-2.2 PI-4.2 LU-4.1

16 Shaded objectives are proposed new initiatives

Sub-objective	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 4.2 Educate the Estuary community by holding the biennial State of the Estuary Conference.	Increase shared knowledge and vision for needs of the estuary	Obtain external funding Fund directly Staff support	Contribute ideas and advise priorities Direct funding	WP 1.2	PI-2.6 LU-4.1
Objective 4.3 Develop long-term educational programs to prevent water pollution, focusing on issues such as sewage discharge from boats, invasive species, trash pollution, etc.	Increase public understanding of how actions affect Estuary	Obtain external funding Fund directly Staff support	Contribute ideas and advise priorities Direct funding	WP 6.1 WP 6.2 WP 6.3	PI-2.2 PI-2.4 PI-2.5 WU-1.3 LU-4.1
Objective 4.4 Assist the coordination of science conferences and workshops critical to improving knowledge about the Estuary health.	Increase in shared knowledge and vision for needs of the estuary	Fund directly Staff support	Contribute ideas and advise priorities Direct funding	WP 1.2 WP 4.5 WP 5.6 WP 5.7	PI-2.2 PI-4.2 LU-4.1
Objective 4.5 Expand publication/distribution of ESTUARY newsletter.	Increase in public support for protecting and enhancing estuary services and values; Increase in shared knowledge and vision for needs of the estuary	Fund directly Staff support	Contribute ideas and advise priorities Direct funding	N/A	LU-4.1
Objective 4.6 Support teacher and youth education about the San Francisco Estuary.	Additional understanding and investment in the values of the estuary among the youth of the region Increase teacher resources	Fund through grants and contracts Support other agencies' efforts	Contribute ideas and advise priorities Direct funding	N/A	LU-2.8.4.1 PI-1.2.2.2, 2.4.2.5
Objective 4.7 Prepare a communications campaign that develops and promotes core messages of the SFEP.	Completed communications strategy	Fund directly Staff support	Contribute ideas and advise priorities	N/A	PI-1.1.1.4

Goal 2: Reorganize SFEP for Greater Effectiveness

The Partnership is well positioned to implement its historically modest budget. However, in order to support an expanded effort, it is necessary to increase the organization's budget and program capacity.

Desired Results

Long-term: Organizational growth to fulfill SFEP niche as a leading NEP and advocate for the San Francisco Bay and Estuary.

Short-term: 1) Increased clarity about decision-making and priority setting. 2) Adequate staffing capacity to carry out the strategic goals.

OBJECTIVE	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 5: Reaffirm role of SFEP Executive Council.	Stronger support by the lead agencies of SFEP and its mission	Staff support	Contribute ideas and advise priorities	N/A	N/A
Objective 6: Establish a Steering Committee to support SFEP Director.	Improved decision-making by SFEP Increased support for the Director	Staff support	Contribute ideas and advise priorities	N/A	N/A
Objective 7: Expand participation of local elected officials	Stronger implementation of CCMP throughout region	Staff support	Recommend new partnerships and support outreach efforts	N/A	N/A
Objective 8: Improve the efficiency of the Implementation Committee by updating decision making/membership procedures.	Expanded capacity to manage and direct resources to needed projects and programs	Staff support	Contribute ideas and advise priorities	N/A	N/A
Objective 9: Establish a Science Committee.	SFEP projects and program more strongly reflect the current state of research on CCMP issues	Staff support	Contribute committee members Contribute ideas and advise priorities	N/A	n/a

18 Shaded objectives are proposed new initiatives

OBJECTIVE	Indicators of Success	SFEP Role	IC Partner Role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 10: Establish a Public Outreach Committee.	Strengthened SFEP message and brand Wider public understanding of resource values of the estuary	Staff support, with Friends of the Estuary acting as Public Outreach Comm.	Contribute committee members Contribute ideas and advise priorities	N/A	PI-1.1.1.2 PI-1.6.1.7 PI-2.1.2.4 PI-3.1-3.3 PI-4.2
Objective 11: Establish a Project Review Committee.	Improved capacity of SFEP to respond to funding opportunities More and better projects on the ground	Staff support	Contribute committee members Contribute ideas and advise priorities	N/A	n/a
Objective 12: Assess SFEP staff and organizational capacity, and adjust as needed.	SFEP structure and staff capabilities reflect organizational priorities	Staff support	Contribute ideas and advise priorities	N/A	n/a
Objective 13: Use interagency staff partnerships to enhance SFEP staff expertise.	Improved capacity of SFEP staff to address priorities	Staff support	Contribute staff Contribute ideas and advise priorities	N/A	n/a

Goal 3: Increase Funding and Resources to Support SFEP and Partners

Desired Results

Long-term: Stable federal funding through annual appropriation

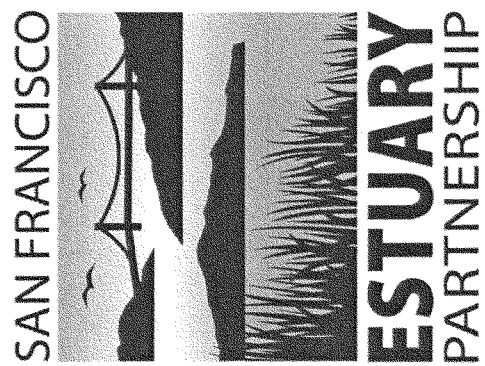
Short-term: Faster implementation of CCMP projects

OBJECTIVE	Indicators of Success	SFEP Role	IC Partner role	Current Work Plan Tasks	Comprehensive Plan Actions
Objective 14: Continue to compete for state and Federal grants in programs directly related to Strategic Plan priority areas including new opportunities like the San Francisco Bay Area Water Quality Improvement Fund and the State Revolving Fund.	Faster implementation of SFEP priority actions	Staff support	Contribute ideas and advise priorities Lead and or support projects	N/A	LU-5.2
Objective 15: Continue to support and build new relationships and partnerships to support implementation work.	Faster implementation of SFEP priority actions	Staff support	Support and cultivate expanded partnerships	N/A	LU-5.1 LU-5.2 LU-5.3 LU-5.4
Objective 16: Staff and support the efforts of the new Bay Restoration Authority (RA) to identify and create new funding mechanisms for further wetland restoration around the Estuary.	Faster implementation of SFEP priority wetland actions	Staff support	Through the IC, contribute ideas and support efforts of RA	NEW	LU-5.2 LU-5.4
Objective 17: Actively seek additional funding from philanthropic organizations, to help address critical Estuary environmental needs.	Faster implementation of SFEP priority actions	Staff support	Recommend new partnerships and support outreach efforts	N/A	LU-5.2
Objective 18: Expand collaboration with cities, counties, and special districts on projects of common interest.	Faster implementation of SFEP priority actions	Staff support	Recommend new partnerships and support outreach efforts	N/A	LU-5
Objective 19: Provide local government partners with technical assistance to develop Comprehensive Plan implementation projects to a state of funding readiness.	Faster implementation of SFEP priority actions	Staff support Fund directly	Recommend new partnerships and support outreach efforts	N/A	n/a

Shaded objectives are proposed new initiatives

Implementation Committee Agencies

Bay Area Clean Water Agencies
Bay Area Stormwater Management Agencies Association
Bay Conservation and Development Commission
Bay Institute
Bay Planning Coalition
California Coastal Conservancy
California Department of Fish and Game
California Department of Water Resources
California Resources Agency
Central Valley Regional Water Quality Control Board
Citizens Committee to Complete the Refuge
City of San José
City of Union City
Contra Costa County Resource Conservation District
County of Marin
County of Solano
Delta Protection Commission
CalFed Bay-Delta Program
Friends of the San Francisco Estuary
Institute for Fisheries Resources
Marin Audubon Society
National Fish and Wildlife Foundation
National Marine Fisheries Service (National Oceanographic
and Atmospheric Administration)
National Resource Conservation Service, U.S. Dept. of
Agriculture
San Francisco Bay National Estuarine Research Reserve /
San Francisco State University Romberg Tiburon Center
San Francisco Bay Regional Water Quality Control Board
San Francisco Estuary Institute
Save the Bay
SF Bay Joint Venture
U.S. Army Corps of Engineers, SF District
U.S. Environmental Protection Agency, Region 9
U.S. Fish and Wildlife Service



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saveSfbay.org

March 22, 2010

The Honorable Jackie Speier
U.S. House of Representatives
Washington, DC 20510

Dear Representative Speier:

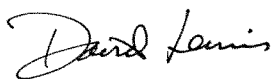
Save The Bay applauds your initiative to increase federal resources to improve the health of San Francisco Bay, and we strongly endorse the San Francisco Bay Improvement Act you are introducing to enhance the U.S. Environmental Protection Agency's efforts toward that end.

Save The Bay is the oldest and largest membership organization working exclusively to protect and restore San Francisco Bay, with 25,000 members and supporters. As the Bay's leading champion since 1961, Save The Bay is committed to making the Bay cleaner and healthier, and your bill would significantly advance that goal.

Over the last 150 years, the water quality and health of the San Francisco Bay estuary have been diminished by pollution, invasive species, loss of wetland habitat and other factors. Improving bay water quality, restoring critical habitat, and adapting to climate change in San Francisco Bay, are urgent federal, state and regional priorities that require additional funding. The Bay region is fortunate to have in place well-developed science-based plans, agencies, and collaborative structures to improve the Bay's health, but more resources for implementation are essential in the crucial decade ahead. The San Francisco Bay Improvement Act would provide significant additional capacity to improve the Bay, building efficiently on elements already in place.

We encourage you and the entire Bay Area delegation to work for swift passage of this bill, and we pledge our continued assistance. Thank you for your leadership.

Sincerely,



David Lewis
Executive Director

SAVE THE BAY



THEODORE R. KULONGOSKI
Governor

May 12, 2010

The Honorable James L. Oberstar
Chairman
House Transportation & Infrastructure Committee
2165 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Oberstar:

I write in support of the Columbia River Restoration Act of 2010 (HR 4562), introduced by Representative Earl Blumenauer. HR 4562 is legislation that would authorize funding and enhance coordinated efforts to protect and restore the mighty Columbia River that borders the states of Oregon and Washington.

The Columbia River is a vital artery of the Pacific Northwest. It supports our economy as a source of freshwater, as a major transportation corridor, as a generator of hydropower and as the largest producer of salmon and steelhead on the West Coast. The river has been subjected to an array of pollutants from a variety of sources throughout its watershed, with many contaminants persisting for decades. While development within the Columbia River corridor has brought economic gain and prosperity, we have reached the point where human and environmental health is at risk. As in the case of other major American rivers, it is now time to give the Columbia the national attention it merits.

The significance of the Columbia River ecosystem cannot be over emphasized. It was recognized as a "Large Aquatic Ecosystem" by the Environmental Protection Agency (EPA) as well as an "Estuary of National Significance" which underscores the diversity of life dependent on this aquatic ecosystem. Recovery of salmon and steelhead species within the Columbia River Basin cannot be achieved without clean water, a healthy river, and protected and restored habitats.

HR 4562 will further advance Oregon's and the federal government's efforts to address toxics and other contaminants and stem the pervasive loss of fish and wildlife habitat. It will strengthen the ability of the Lower Columbia River Estuary Partnership to implement its invaluable programs and activities for restoring estuarine health. In addition, HR 4562 is essential to implementing the EPA's Comprehensive Strategic Plan for reducing toxics in the Columbia River.

The Honorable James L. Oberstar
May 12, 2010
Page Two

I urge you and the Committee on Transportation and Infrastructure to give this legislation your full support.

Sincerely,

A handwritten signature in black ink, appearing to read 'Theodore R. Kulonowski', written in a cursive style.

THEODORE R. KULONOSKI
Governor

TRK:mejib